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TECHNICAL AND REGULATORY CONDITIONS INFLUENCING PARTICIPATION IN, AND USAGE OF, COMMODITY EXCHANGES BY BOTH BUYERS AND SELLERS OF COMMODITIES

Report by the UNCTAD secretariat

This report has been prepared as an input to the Group of governmental and nongovernmental experts convened by the Secretary-General of UNCTAD to examine (a) the conditions, both technical and regulatory, for encouraging maximum participation in, and usage of, commodity exchanges by both buyers and sellers of commodities and (b) proposals to address these conditions, pursuant to "A New Partnership for Development: The Cartagena Commitment", para. 213.

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OVERVIEW OF THE ISSUES

1. Governments recognized at the eighth session of UNCTAD that "increased reliance on market forces to determine international commodity prices requires the efficient and transparent operation of price formation mechanisms. In particular, it is essential that both buyers and sellers have full confidence in the ability of commodity exchanges to form prices which reflect the basic supply/demand situation."[1] In view of this, the Conference agreed that "at the level of governmental and non-governmental experts, an examination should be undertaken in UNCTAD of: (a) the conditions, both technical and regulatory, for encouraging maximum participation in, and usage of, commodity exchanges by both buyers and sellers of commodities and (b) proposals to address these conditions."[2]

2. This report discusses technical and regulatory conditions affecting participation in commodity exchanges and usage of commodity futures and options contracts by buyers and sellers of commodities.[3] Examples of problems and issues that have arisen with contracts for various commodities and in differing exchange and regulatory formats are used to illustrate areas where the experts may wish to consider that actions are needed to encourage trade-related participation. Many of these actions may concern ways of increasing the confidence of buyers and sellers to participate in the trading of contracts, and of improving their perception that the prices discovered in such trading are indeed representative of the fundamentals of supply and demand for the commodities concerned. The following is a listing of the main issues identified in this report and some associated questions, answers to which could provide a basis for the response of the experts to their mandate.

(a) It appears that for a futures contract to be a feasible mechanism for price formation (discovery) for a commodity, trade in that commodity needs to be of a sufficient volume and the commodity should have characteristics of homogeneity and storability. There should be a significant number of unrelated firms on both the buyer and seller sides of the market, without a high degree of vertical integration in the sector (i.e. absence of significant direct ownership links between producers and processors) and also a liberal trading regime (i.e. no government interventions affecting price levels or creating a large number of market segments). Therefore, can one conclude that, while futures contracts exist for a number of major commodities in international trade, the range of further commodities in which there is a potential role for such contracts in price formation is inherently limited?

(b) For a futures contract to serve a hedging purpose for buyers and sellers, over the medium term the price of the commodity should exhibit some volatility and in the very short run the price of the corresponding futures contract should not exhibit

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[1] "A New Partnership for Development: The Cartegena Commitment", TB(VIII)/Misc.4, para 206.

[2] Ibid., para. 213.

[3] A description of the instruments and market places referred to in this study is provided in "A survey of commodity risk management instruments", UNCTAD/COM/15, 15 March 1993.

excessive volatility. Too little volatility in the price of a commodity can eliminate the need to hedge - such low volatility is evident when prices are consistently depressed (e.g., some soft commodities in recent years), or when the commodity is mainly traded under other price formation mechanisms which fix a price level for at least a year. Excessive short-term volatility in the price of a futures contract makes hedging transactions more different to execute and more expensive. Therefore, can one conclude that different levels of use of exchange-traded instruments by buyers and sellers of a commodity are to be expected in different time periods or when they are involved in different types of physical trade deals?

(c) Contract specifications for a commodity should reflect physical trade conditions for buyers and sellers, in terms of quantity, quality, and delivery conditions and locations, so that the prices in cash and futures markets converge. Therefore there should be involvement of both buyers and sellers in developing and changing contract specifications. It is questioned whether this happens to a sufficient degree and whether the procedures in exchanges for ensuring their active involvement and influence on contract specifications are adequate. If not, can improvements be suggested?

(d) The hedging of price risks for commodity trade can be handled through on-exchange and over-the-counter (OTC) instruments (various forms of forwards, futures, options, swaps, bonds and loans). The choice of instruments depends on several factors including counterpart risk, access to finance, marketing method used and degree of sophistication of the buyer and seller. Are exchanges and OTC markets complementary or does increased use of OTC investments affect the price discovery function of exchanges? Should the use of longer-term risk management instruments on one side of the market (i.e. by buyers or by sellers) be encouraged?

(e) The commodity exchange market place needs to be reliable. The existence of a clearing house and a regulatory system ensures this but raises the costs of, and puts conditions on, use of the market (such as criteria for the financial standing of participants, their ability to meet reporting requirements or the payment of fees). These costs and conditions may restrict access to exchange contracts by buyers and sellers. Are prevailing costs reasonable? How does one reconcile the costs of providing security, including through regulation, with the desire to increase participation of buyers and sellers? Can costs be reduced for certain trade-related parties in order to encourage their participation without affecting the reliability of the market and, if so, how?

(f) Participation in the exchange trading of a contract needs to be balanced between the buyers and sellers of the physical commodity (i.e., those concerned with fundamentals). If, in the long run, either side participates to a much larger extent than the other, this would distort the futures market supply/demand balance as compared to the physical market balance. Does this happen? Furthermore, what are the implications for the functioning of a contract when there are many small sellers and a few large buyers, or vice versa? Is price formation through an exchange-traded contract representative when there is a prevalence of direct deals outside the exchange involving either buyers who are large multi-commodity firms for which the

commodity is a minor input, or large suppliers (i.e., these buyers or suppliers account for a large share of trade but do not use the market or use it only occasionally)? What are the implications of the decreasing number of intermediaries such as trade houses (i.e. increasing concentration in intermediaries)? What are the implications of the increasing involvement of banks in trade, futures and OTC markets? What are the information and training needs for encouraging informed participation of buyers and sellers and are these being adequately met at present?

(g) Participation in the trading of a contract also needs to be balanced between trade- and non-trade-related interests so that prices reflect trade conditions and not conditions of trade in financial instruments of various sorts. Is this balance present now? Has the role of non-trade-related influences increased? Is this a problem? What should be the role of institutional investors? Are the existing ways of influencing this balance (e.g. speculative limits, informal exchange-level communications) adequate?

(h) Price discovery mechanisms need to be transparent in terms not only of information on prices (publication of futures prices is at least on a daily basis and price information is easily accessible worldwide at a cost) but also in terms of information on structure of participation. Is the information on structure of participation on commodity exchanges adequate to give buyers and sellers confidence in the market? What can be done to improve the transparency of the structure of market participation without impinging on an enterprise's right to privacy? Can exchanges provide this information themselves or should it be provided by regulatory authorities?

(i) Regulation by the exchanges and regulatory authorities must give users confidence that the deliberate distorting of prices and manipulation will be severely penalized under clear, equitable and well-established rules. Do the procedures for taking decisions that govern the way an exchange operates fully reflect the views of all interested parties? Are producers and consumers adequately represented on exchange committees? Are the rules and procedures well known? Can the rules and procedures be improved to increase the confidence of buyers and sellers? At what point does large position-taking become manipulation? Are the exchanges' and/or regulatory authorities' rules on manipulation too discretionary? Are there ways of bringing more clarity and equity into the treatment of manipulation?

Chapter I

FUTURES AND OPTIONS CONTRACTS AS RISK MANAGEMENT INSTRUMENTS AND AS PRICE DISCOVERY MECHANISMS

A. Futures and options contracts: for which commodities are they feasible?

3. Annex I table 1, which summarizes the currently used price formation mechanisms for the 29 main primary commodities traded internationally, shows that futures and options contracts exist for many of them. Several contracts are available in the fuels sector, which alone accounts for about 40 per cent of world trade in commodities. The share in the world commodity trade of other commodities for which exchange-traded contracts of various sorts exist is about one third - or roughly 60 per cent of world exports of non-fuel primary commodities. However, it should be noted that many of these contracts are currently only used for domestic purposes. The following sections identify the principal conditions for an exchange-traded futures contract to exist for a specific commodity.

1. Technical characteristics of a commodity such as its degree of homogeneity and storability

4. Exchange trading only exists for commodities that can be standardized. It is difficult to design contracts for products such as fish, shellfish, fruit, vegetables, timber and forest products[4] because of the great variety of primary or semi-processed products on offer. Attempts have been made to overcome the constraint of non-homogeneity by designing index-based or differential contracts. For example, the Coffee, Sugar & Cocoa Exchange(CSCE) introduced the "Brazil Differential Coffee Futures Contract" in June 1992, the New York Cotton Exchange(NYCE) introduced a cash-settled cotton contract based on the so-called "Cotlook-A index" in October 1992, and the Chicago Board of Trade(CBOT) is considering launching a "world edible oil index" futures contract.[5] The limited ability of some

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[4] A lumber contract is traded on the Chicago Mercantile Exchange (CME) but it is not very liquid and is only used for the domestic market.

[5] The Brazil differential coffee futures contract reflects the price difference between "C" contract quality coffee and Brazilian unwashed arabica coffee. The Cotlook-A index (the former Liverpool-A index) is published by Cotton Outlook and is formed on the basis of a basket of prices offered by traders of physical cotton for different qualities and delivery ports expressed as an average of the preceding week's and month's quotations. For vegetable oils, only palm-oil (Kuala Lumpur Commodity Exchange (KLCE)) and soyabean-oil contracts (CBOT) are presently exchange-traded and used for price reference. Since the soyabean contract is the most liquid contract traded for any vegetable oil, it has also been used as a reference price for other oils. The proposed "world edible oil index futures contract" would be based on an index of soyabean, palm, sunflower and rapeseed oil prices from the vegetable-oil cash market in Rotterdam. A major problem with this planned contract is that most vegetable oil and grain trading in Europe is done through private deals for which information regarding price and volume is more often than not kept confidential. This

commodities to be kept in store may have prevented them from being traded on exchanges because it is difficult to trade a futures contract for a commodity that would have degraded before maturity of the contract.[6] The problem of limited storability can be overcome for some agricultural commodities by trading them in processed or frozen form such as fishmeal or frozen orange juice concentrates.[7]

2. The volume and value of the underlying physical trade

5. Illiquid trading would probably result from introducing futures or options contracts for commodities which are of relatively little importance in world commodity trade in either value or volume terms. Although a commodity such as sisal is homogeneous and can be stored, no sisal futures and options contracts exist probably because of the low financial value it represents. The volume aspect, by contrast, is related to the homogeneity of a commodity. If, for example, the tuna or shrimp trade were to increase rapidly, sufficient volumes satisfying specified standards could probably be identified to ensure liquid exchange-traded contracts for these commodities.[8]

3. Industry and market structures

6. Viable futures and options contracts require a diversity of unrelated users to be present on both sides of the market. Oligopolistic market structures may, therefore, prevent the emergence of exchange trading. Tea and diamonds may be relevant examples in this respect.[9] The emergence of futures and options trading for aluminium and fuels points to the fact that growing market shares of independent producers and traders can lead to exchange-trading replacing oligopolistically determined price formation mechanisms. A high degree

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marketing structure makes it questionable whether the Rotterdam cash market for vegetable oils can provide a reliable basis for the index.

[6] This aspect has, for example, recently played an important role in the discussions about introducing a secondary aluminium alloy contract on the London Metal Exchange(LME).

[7] A fishmeal contract was traded in London for some time but has since expired. Fishmeal is, however, one of the products proposed for a new commodity exchange in Chile.

[8] The CME started a shrimp contract in 1963 without any success. The Minneapolis Grain Exchange is now planning to introduce a new shrimp contract ("Minneapolis exchange sees big future for shrimps", Financial Times, 20 January 1992; Scott Kilman, "Midwest exchange to launch futures, options on shrimp", Wall Street Journal, 19 January 1993).

[9] In London, a tea futures contract was briefly traded in the 1930s. The Commodity Exchange, Inc.(New York) (COMEX) hoped to start diamond futures in 1988. However, "the COMEX's diamond dreams were shattered by opposition from United States diamond dealers and powerful De Beers Consolidated Mines Ltd." (William Power, "Comex's dreams of carat futures shattered by holders of big stick", The Wall Street Journal, 13 April 1989).

of vertical integration between commodity production and processing will also hinder viable futures contracts from developing as most prices will be determined in intra-firm trade.

7. A related aspect is the segmentation of markets which can be regional or caused by administrative measures[10] or differing consumer tastes. In the case of coffee, the CSCE tried to solve the problem of regional price differences by introducing the "Euro-Differential Coffee Futures Contract" in April 1991.[11] Furthermore, administrative measures such as trade agreements or price controls can eliminate price risk and thus preclude the need for hedging, and hence futures and options contracts for the countries or regions to which they apply.[12] The EC's Common Agricultural Policy may be a prominent example of this. However, as these distortions of the physical commodity market usually affect only part of the world market for a commodity, regionally-oriented contracts or contracts oriented at only a segment of world trade can still be possible.[13]

8. Given these characteristics the potential role of exchange-traded contracts in price formation is necessarily limited, and other types of price formation mechanisms such as price negotiations in long-term contracts, auctions, intra-firm deals, forward markets and spot or terminal markets will continue to be important. However, since the beginning of the 1970s the importance of futures contracts in the trade of commodities for which they exist has been growing. This can be attributed to the following reasons. First, the increasing number of suppliers on commodity markets led to a decline in the bargaining power of producers and a decreasing number of long-term trade agreements. This evolution has resulted in a greater day-to-day volatility in commodity prices which, on the one hand, caused price risk embodied in long-established systems of administered producer prices on world markets to become too high and, on the other hand, ensured the presence of a sufficient degree of price fluctuation without which trading activity on futures markets would be too limited to result in

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[10] Administrative measures in the United States have led the CSCE to operate two raw sugar contracts, one for the domestic market and another for international use.

[11] The Euro differential coffee contract is priced with respect to the value of coffee in Europe and relative to the "C" standard contract traded on the CSCE. It has been more or less inactive since its introduction.

[12] When a country which is a dominant exporter or importer of a commodity has price controls, this can reduce price volatility for trade worldwide. For example, it may be indicative that in the 1960s, when the Government of the United States (the United States being the world's largest producer and exporter of cotton) started to buy cotton at a high, fixed price, the need for risk management declined so strongly that the Liverpool Cotton Exchange fell into disuse and disappeared.

[13] The sugar trade agreement between the countries of the European Community (EC) and the ACP countries, for example, means that sugar exporters from ACP countries do not incur any price risk when they export to EC countries. This type of market distortion has, however, not prevented the trading of futures and options contracts for sugar on a number of exchanges including the CSCE, The Futures & Options Exchange (London Fox), MATIF and several Japanese exchanges.

representative price quotations. Second, several national and international schemes for price stabilization ran into difficulties. Commodity market participants therefore had to look for other mechanisms to protect themselves from excessive price risk. Third, the high real interest rates of the early 1980s caused high storage costs. It was therefore much cheaper for commodity traders and consumers to obtain a claim on a commodity by purchasing a futures contract than it was to purchase and store physicals. This changed the perception of commodity traders and consumers regarding the trade-off between holding commodities in store and using futures and options markets. Fourth, the easier access to information and communication networks has greatly facilitated participation in the exchange markets for a large number of market participants all over the world.

B. The role of futures contracts in the pricing of physical trade

9. Apart from using futures and options contracts as a hedging mechanism for price risks, commodity buyers and sellers increasingly use exchange-generated prices as reference prices for their physical trade. This has occurred because the visibility and widespread publicity given to futures market quotations are an improvement on alternative systems in which prices tend to be known by relatively few, privileged market participants.

10. Physical trade contracts are often based on a reference price adjusted by premiums or discounts reflecting differences in quality, location, degree of processing, delivery dates, local supply and demand, etc.. The market or information source serving as reference for price-determining purposes is usually that which best represents the current and expected supply and demand for the product in question. However, the specific terms in an individual trade agreement are influenced by the market structure, i.e., the divergent bargaining power of the buyer and seller and/or the region where the commodity in question is traded.

11. Price quotations on commodity exchanges can be used as reference prices in several forms. In the fuels and metals markets, average prices referring to the average of futures market prices over a certain period of time are widely used. Average prices are also used to some extent for the trade of agricultural commodities. The most frequently used pricing system in agricultural markets is, however, the executable order (and related pricing systems such as price calls). In this case, a specific futures contract is written into a physical trade contract, and the buyer and/or seller is allowed a specific period of time during which he can fix the price at which the contract will be executed. The sophistication of the types of trade contracts for a wide range of commodities is increasing. For example, option clauses are now often included - be it in the form of price guarantees or profit or loss sharing clauses.[14]

12. The growing use of over-the-counter instruments such as swaps and options in commodity trade relies on there being a well accepted price reference - usually a futures price

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[14] Price guarantees stipulate that if, at the date of delivery, the then prevailing spot market price is more favourable than the fixed price at which the forward contract was signed, the more favourable spot market price becomes the contract price. Profit or loss sharing clauses allow a buyer (seller) to profit from price declines (increases), even if a fixed-price forward contract has been signed.

from a commodity exchange - and on the ability of the firms offering such instruments (brokers, trading houses and banks) to lay off their own risks, when needed, on a futures market. Therefore, the health of OTC instruments is inextricably linked to well-functioning futures contracts. In this connection it is noted that OTC markets are hardly transparent and that only those considered creditworthy by the firm writing the instrument can participate (see annex III for more information on OTC markets).

C. Conditions for futures contracts to be viable price discovery mechanisms

13. The continued and increased use of futures contracts, and related options contracts, by commodity buyers and sellers for hedging and price discovery purposes requires the trading of these contracts to generate price signals that are representative of current and expected supply and demand in the underlying physical market. This link to the physical market also induces use of commodity futures markets by non-trade-related participants such as managed funds and institutional investors seeking to diversify their investments as commodity price developments do not usually move in parallel to those in financial markets.[15] If buyers and sellers perceive that price signals from futures contracts are unrelated to their fundamentals then they will not use them and this, in turn, will weaken the link. Buyers' and sellers' confidence in using futures contracts for hedging and price discovery depends on fulfilment of four general conditions:

(a) The contracts traded on futures and options exchanges must be in conformity with conditions in the underlying physical market, and limit the possibilities for price distortion. Aspects of this conformity concern quantity, quality and currency specifications and delivery conditions (timing and location).

(b) The commodity exchange market place needs to be reliable. This is ensured through the clearing house and regulatory system, both of which increase the costs of use of the market and impose conditions on users such as being able to meet financial standards and reporting requirements.

(c) Futures and options contracts must be traded on liquid markets, i.e., markets where users can easily find a counterpart to their transactions. As the volume of trade-related business alone is not always sufficient to ensure market liquidity, users with non-trade-related interests are needed. On the other hand, futures and options contracts are representative price discovery mechanisms only if participation in the commodity exchange is balanced. This means that non-trade-related market participation should be present but not dominate trade-related business and that the latter should involve a diversity of market participants on both sides of the market.

(d) Futures and options trading must be transparent to limit the possibility of market distortions. This requirement includes publicly available information on the

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[15] A fear has been expressed by managed fund managers that, with current developments in commodity futures markets, "there are not enough commercial users, enough legitimate hedgers, to accommodate "smart money" speculators." (Wall Street Journal, 2 August 1991).

structure of market participation, on the activities of groups of participants and on the way an exchange is governed, as well as clear, equitable and well-established rules and regulations for its operation. Whereas reporting requirements which are present on all exchanges ensure the timely availability of contract prices, transparency on the other aspects is largely absent.

Chapter II

FUNCTIONING OF AND PARTICIPATION IN COMMODITY EXCHANGE OPERATIONS

14. In this chapter, the conditions outlined above are discussed using examples of the functioning of commodity futures contracts, how problems have been tackled and whether further actions seem to be needed. Actions in the area of regulation and surveillance are discussed in chapter III.

A. Contract specifications

15. Over the years, problems with contract terms have appeared in several areas. These include quality and origin specifications, delivery locations, and option conversion procedures.

16. If the quantity specified in a contract is too big with respect to the normal business of buyers and sellers, they will use it only reluctantly. This is usually not a problem but seems to have been a point of contention for scrap dealers in terms of a recently introduced scrap iron contract on the CBOT.

17. Quality specifications must ensure that the commodity deliverable to the exchange is standard, widely traded and acceptable to the physical market as delivery. If the quality specified in futures and options contracts is lower than the standard quality in trading on the physical market, users of exchanges will be unwilling to take delivery. This will lead to growing stocks and exert a downward pressure on prices. If the specified quality is too high or the range of qualities that can be delivered to the exchange is too narrow, the quantity available for delivery will be low with the result that cornering the exchange will be easier. Quality specifications have been quite a frequent source of problems for metals. For example, on the LME all the major base metal contracts have seen at least one quality upgrading, with an older contract with lower quality standards being phased out. The necessity of adapting contract specifications to changing industry standards can be illustrated by the experience of copper producers in the late 1970s. Copper cathodes had become prevalent in physical trade, while copper wirebars remained the standard for the LME copper contract. Producers of cathodes started to demand premiums over the LME price, which was resented by consumers. When there was a short period of oversupply of copper, producers were not able to deliver copper cathodes to the exchange, and had to sell them on the cash market at a large discount. The copper contract has since been adapted, after consultations between LME and the copper industry. Another example of a contract that does not fully fit market conditions is the New York world sugar contract, which is plagued by recurrent backwardation. This is the result of artificial shortages made possible by the politically motivated exclusion of sugar of Cuban origin for delivery to the exchange, Cuba being the only large raw sugar supplier in the western hemisphere.

18. Quality and origin specifications can determine to a large extent for which physical market futures prices are representative. For example, in 1991 the CBOT proposed to ban foreign grain (wheat, maize and soyabeans) for delivery against futures contracts. While most

United States exporters supported this proposal, some large international grain trading companies (such as Cargill) criticized it strongly on the grounds that the exchange, by refusing to let many foreign grain growers trade in its market, would be retreating from its stated goal of being a global marketplace. After discussions, it was decided to separate United States and non-United States stocks in warehouses, so that processors could take delivery of both but exporters of United States grain only.

19. If the currency specified in exchange-traded contracts is not representative of that used in international trade, users have to manage their currency position in addition to their commodity price risk. While this may often provide opportunities to make extra profits from arbitrage and foreign exchange transactions, trading in commodity contracts may substantially slow down in periods of turmoil in currency markets because of problems in hedging the currency position.

20. The terms and conditions of contracts must result in a deliverable supply that is not conducive to price manipulation and distortion, i.e., which is available to the short trader and saleable by the long trader at its market value in normal cash marketing channels. While most futures contracts are offset through a financial transaction, the rules of most commodity contracts take into account the possibility of delivery to ensure that the physical and futures markets move in line with one another. Apart from considerations regarding the balance of participation in the trading of a contract (see below), one of the conditions necessary for such a situation is that the warehouse(s) specified for delivery is (are) located close to the market for physical trade. Users of futures exchanges who have to take or make delivery can then respond quickly enough to prevent a single market participant from gaining control over supply or demand. The geographical location and potential seasonal pattern of both production and consumption may also play an important role. If a commodity is produced in Latin America and consumed in North America, the price quotation of a contract for this commodity traded on a European futures exchange specifying delivery to a warehouse located in Europe will most probably not be representative of cash market conditions. The more stringent the contract terms with respect to, for example, acceptable quality or delivery times, the more difficult is timely delivery.

21. In response to problems with delivery conditions, the LME has expanded its warehouse locations for some of its metals to include Japan, Singapore and the United States in an effort to ensure that its contracts would reflect the changing pattern of trade and systems of trade for its commodities. The New York Cotton Exchange decided in early 1991 to add warehouses outside Florida as a delivery location for frozen concentrated orange juice, after Brazilian exporters had for a long time been hindered in their use of the futures market by high local taxes for delivery to Florida warehouses. In the United States, the Commodity Futures Trading Commission (CFTC) proposed in September 1991 that CBOT change the delivery points for its maize and soyabean futures contracts; due to the declining role of Chicago as a cash market, manipulation had become too easy and new delivery points were needed.[16]

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[16] See Commodity Futures Trading Commission, Kalo A. Hineman delivery issues symposium, Washington, September 1991.

22. Conversion procedures for option contracts are also important. If a great number of option contracts reach maturity at the same time and the specified period of delivery of the underlying futures is relatively short, pressures on price unrelated to the situation of supply and demand on the physical market may arise. The specification of option conversion dates was until recently a major problem in the LME metals markets as options could be exercised up to the day that the corresponding futures contract became deliverable. An enormous number of options were often outstanding and when these options were exercised near the start of the delivery period of the futures contract, a large number of option sellers found themselves obliged to start delivery procedures in the very short run, for which they were often completely unprepared. Prices at times reacted very strongly. Changing option specifications took some time. Already in 1986 it was noted that "traders and clients alike accept that options can exaggerate price swings on the market and they have blamed the squeezes which have hit the aluminium market this year on options traders."[17] Only in 1992, following pressure from some LME members, were option conversion dates spread out over a number of days, allowing for more preparation time before the start of delivery procedures.

23. Many of the problems which appeared with contract terms have been resolved, often through intensive contacts between the exchanges and the industry, although there have been considerable time-lags during which many industry participants have found it difficult to use the futures contracts properly. Intensive contacts with industry and trade are standard in the United States when new contracts are developed or existing contracts are adapted. Under CFTC regulations, there is a set of rules that exchanges have to conform to, and procedures that have to be taken before a new contract can be approved or an existing contract modified (including the possibility for all concerned to give their comments after publication of the contract proposal in the Federal Register). In Europe, no formal rules on contract development or modifications exist - exchanges make their decisions independently of any formal supervision, after informal consultations with the industry.

24. However, this leaves open the question as to who are consulted. In principle, a comment procedure such as used by the CFTC allows any producing or consuming company to give its opinion but, in practice, the arrangement does not involve any active soliciting of comments. The CFTC assumes that all concerned, including developing country exporters or importers, will be aware of proposed new contracts or contract modifications and therefore there is no obligation to contact any company that may be affected.[18] In Europe, a primary reason for a number of developing country copper companies to be associate members of the

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[17] Financial Times, 9 October 1986. See also Metal Bulletin, 7 January 1986.

[18] "According to Peter Kooi, president of Cargill's Commodity Marketing Division "... it would be helpful ... if more people with an understanding of the underlying cash markets were involved in the self-regulatory process. The Chicago Board of Trade needs to consider the views of commercial hedgers, and not just write up their comments as a footnote labeled "minority views" in the official minutes. It needs broader representation in the selection and election of CBOT directors. It needs to involve more trade and producer groups in discussions about cash-market conditions and farm and agricultural trade policies that could affect performance of contracts." Quoted in CFTC, ibid, September 1991.

LME is to ensure that they are consulted, in such a way that contract specifications continue to meet their market requirements (and they have had a large influence in the past). Apart from these companies, however, there is only one other developing country organization that is a member of a commodity exchange (the Mexican Central Bank in COMEX). In exchange committees in the United States and United Kingdom for soft commodities such as sugar, coffee and cocoa, developing country interests are not represented at all.

25. In conclusion, it would seem useful to consider ways of ensuring the active involvement of buyers and sellers in the development or modification of exchange contracts. Should this involve a formally required consultative procedure, a change in the composition of exchange committees, or both?

B. Market reliability and costs of participation

26. The existence of clearing houses and a regulatory system involving audit trails and reporting standards is designed to raise the confidence of users of commodity exchanges. This is in contrast to the over-the-counter market where participants have to accept counterpart risk themselves. However such systems raise the costs of participation in several ways, and, as many of these costs are particularly difficult for commodity buyers and sellers to assume, they may be discouraged from participating.

27. To participate directly in the trading of a contract, it is necessary to buy a seat on or membership of an exchange, and usually to have a legal domicile or an office in the city where the exchange is located. It is necessary to be able to meet capital adequacy standards designed to ensure that each exchange trader is creditworthy. In addition, users directly active on an exchange floor must have an accountancy system that allows them to comply with audit trail and reporting requirements. These costs influence the composition of the membership of exchanges to the detriment of less well-capitalized firms. This especially affects commodity buying and selling companies; only for a few would buying a seat on or membership of an exchange be a worthwhile exercise.

28. Using commodity futures and options exchanges through intermediaries such as brokers can be costly as well. Users must provide for margin deposits and margin calls, pay commission fees and, in addition, bear organizational costs. These organizational costs include, for example, the establishment of an adequate accountancy system designed to ensure proper control of the use of risk management instruments. They also include the provisions for adequate training of the company's staff and for regular access to daily information needed for using futures and options exchanges. Whether or not commodity buyers and sellers will consider it worthwhile to incur these costs largely depends on their location, the size of their trade deals and the frequency with which they need to use these markets. Commodity buyers and sellers especially from developing countries who have relatively small trade deals and would use futures and options contracts only occasionally though brokers may prefer to engage only in cash market trading. While this strategy implies a relatively higher

risk exposure and a lower predictability of future cash flows, it would save the expense involved in using futures and options exchanges.[19]

29. While a large part of the costs related to the use of exchanges are necessary to ensure reliable markets, there is a case to be made for helping buyers and sellers of commodities to cope with these costs. For instance, with regard to margin calls it can be argued that somewhat more flexibility would be desirable towards companies from countries with slow procedures for the deblocking of foreign exchange.[20] The present practice of requiring margin calls to be paid within 24 hours prevents many developing countries from using futures exchanges directly, and forces them to pass through the companies with which they trade, using instruments such as executable orders. While this may indirectly increase participation of buyers and sellers of commodities in futures contracts in that it increases trade house use of the contract, it does have the disadvantage of disclosing a great deal of information about their trading objectives to trade houses. These houses often have dominant positions in futures contracts and physical markets.

30. Organizational costs linked to the use of futures contracts could be reduced through training programmes oriented at enhancing the knowledge of commodity buyers and sellers of the organizational requirements for using risk management instruments. Traditional training programmes by commodity exchanges were oriented at explaining the mechanics of futures and options market trading. Only recently have they started to discuss organizational problems explicitly with potential users of the market.[21] Virtually all of these training activities, however, are oriented at developed country commodity producers and end-users and, in the United States, at those directly participating on the exchange, leaving a major part of the world's buyers and sellers of commodities on the sidelines. It has been recognized that there is a need for additional training activities oriented at the latter group, and UNCTAD and the World Bank have recently become active in this area.

31. Another way to help reduce the organizational costs is an adaptation of the way exchanges, and their regulators, communicate with companies using the exchanges for hedging purposes. Many firms are worried about the costs involved if their hedging programmes turn into speculation without their knowledge. In this respect, the policy of MATIF may prove a useful example. If the level of a company's total risk exposure surpasses 20 per cent of its capital base, the MATIF management directly contacts the general management of the company involved, bypassing the company's risk management department. The fact that a company's management (or a developing country's government) can count on an exchange (or its regulator) to warn it when its hedging programme risks getting out of control may reduce the costs involved in internal control arrangements without fears of an abuse of risk

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[19] Unfortunately, no studies are available on the comparative advantages of spot and exchange trading for small commodity buyers and sellers.

[20] Only a few large developing country firms are eligible for sizeable credit lines that allow them to cover margin calls.

[21] See for instance NYMEX, NYMEX natural gas futures - A practical guide to development and management of a hedge programme, New York, 1990.

management instruments by those directly involved in trading. This may be particularly important to developing countries contemplating liberalization of the use of futures markets. However, other than MATIF, neither exchanges nor their regulators seem to have this kind of early warning system.

32. Also, the use of contracts particularly for those not on the exchange floor can be made less costly by providing easier access to information on market participation. Even in the United States where reporting systems are most developed, present procedures do not permit market participants, other than those directly represented in the trading pit, to make well-informed trading decisions. This may cause large extra costs especially for those users of commodities located far away from the exchanges. In recent years, the gathering and processing of data at the level of the exchanges has greatly improved and it might be worth considering the use of these data for the purposes of informing participants on developments in the market rather than limiting their use to regulatory purposes. For instance, daily open interest reports should be feasible. On non-United States exchanges, much effort is needed to bring the provision of information up to a level where buyers and sellers of commodities, including those located in countries other than the country where the exchange is located, can participate in exchange activity on an equitable basis with those present on the exchange floor.

C. Volume of turnover of contracts

33. The volume of trade in practically all commodity futures and options contracts, especially for further-out months, is not very high. The daily turnover on most commodity futures markets, even the most liquid ones such as those for crude oil, is such that it will strain the capacity of these markets to the utmost if, for example, a leading producer decides to use futures over a short period to manage the price risk of a substantial proportion of its output. The existence of a properly regulated market is no guarantee that it has sufficient liquidity to be able to handle medium- to large-sized orders without suffering substantial price swings. This severely limits the efficiency of hedging operations and affects the representativeness of price discovery. Large commodity producers, traders, consumers and others wishing to lock in prices may react by moving into the over-the-counter market, by using the market to a lesser extent than they would have wished, or by adopting sub-optimal strategies (taking positions over a longer time period, taking positions in nearby contracts and rolling these over, or taking positions in "parallel" contracts, which exposes them to additional basis risks).[22]

34. Price discovery can also be negatively affected when a few market participants, or one only, account for a substantially larger amount of business than the other participants. These very large market participants may then feel tempted to affect prices through squeezes or similar forms of market manipulation. A different situation may arise when the traded commodity represents a minor part of the input costs of companies using the commodity

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[22] Mexico's Ministry of Finance, which wanted to lock in favourable oil prices in late 1990 and early 1991, could only hedge a part of its production because the oil markets were not deep enough (Financial Times, 26 March 1990; Washington Post, 27 March 1991).

whereas it represents a major source of revenue for many exporters. These consumers may then not use futures and options contracts to any great extent because they can fairly easily outweigh even substantial unfavourable price movements on the markets by relatively small adjustments in their processing margins or sales prices. Trading could then be unbalanced with sellers relying on non-trade-related participants or trade houses to take opposite positions. This could affect the participation of all groups because of a perceived lack of connection of trading to supply and demand conditions.[23]

35. Commodity buyers and sellers wish to operate in markets with high volumes of turnover. This coincides with the desire of commodity exchanges to increase profits by promoting market turnover. Exchanges have undertaken or are considering undertaking promotional activities oriented at commodity producers and consumers (at times these activities have met with much success), prolongation of the hours when the contracts can be traded, even to 24 hours through the use of automated trading systems, and efforts to draw more speculative finance to the market. These last two types of action may be inherently conflictual with the aim of providing representative prices, and require careful balancing.

36. It should be noted that the innovation of 24-hour electronic trading systems could reduce market liquidity for two main reasons. First, trading activity and liquidity are necessarily low at times when there is no major trading activity in any of the exchanges connected to the electronic trading system due, for example, to time zones. At those times market manipulation becomes easier. Second, electronic trading systems make locals hesitant about becoming involved in exchange trading. The reason for this is that the trading strategy of locals is largely determined by their interpretation of the information they obtain from their colleagues in the trading ring. Exclusive computer-based trading may, therefore, cause the disappearance of locals who account for a large part of intra-day liquidity in floor trading on several markets.

37. Efforts to increase the role of speculative finance appear useful as they increase liquidity. However, if there are many users with solely non-trade-related interests relative to those with commercial interests, the expectations of these users may unduly influence price determination. As users with non-trade-related interests, in addition to employing past-oriented technical analysis, react to developments in financial markets, financial market volatility may spill over to commodity markets. Exchange generated prices would then reflect supply and demand for financial contracts of various sorts rather than the fundamentals for the underlying commodity.

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[23] This appears to be the situation with regards to soft commodity markets, especially in Europe. It is reported that many large commodity end-users such as Nestlé hedge only a minor part of their price exposure.

D. The price formation process and the influence of different types of participants

1. Number, size and type of futures and options market participants

38. A large number of actors can be active, directly or indirectly, on commodity futures exchanges. The partially overlapping categories include producers, consumers and processors, trade houses, locals, brokerage companies, banks, managed funds, institutional investors, large private investors and firms specialized in arbitrage transactions. Only some of these are members of exchanges and even members do not necessarily execute all their transactions themselves, since their actions are often less transparent if part of their buying or selling orders are passed through others (often locals).

39. As current reporting practices mean that much information on the balance of participation on exchanges is not publicly available, the following is based mainly on impressionistic evidence from industry literature.

40. Producers, consumers and processors can be directly active on the exchange. A few such companies are exchange members but in most cases they deal through trade houses or brokerage firms. It is usually not very attractive for producers or consumers to incur the expenses associated with full membership of an exchange. If they do not have any client business, their actions would be very transparent.

41. In recent years, there has been a concentration of market power among trade houses. Some major players have disappeared, and a limited number of very large international multi-commodity trade houses now dominate commodity trade and have a major share in commodity futures and options turnover.[24] While their large role on exchanges can be partially attributed to an expansion in the types of physical trade contracts which make the trade house the intermediary for the risk management activities of its trade partners, trade houses are also active for their own account. A few have even created their own managed funds.[25]

42. Locals - small individual traders - are usually only active in one commodity (and in general in either futures or options) and provide a major part of intra-day activity, sometimes as much as 40 per cent.[26] They rarely leave their positions open overnight. Although their

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[24] Concentration is especially high in trade in soft commodities, but it has also grown in the metal trade. See, among others, P. Chalmin and J. Gombeaud, International Commodity Markets Handbook 1989-90, chap. 74.

[25] For instance, ED&F Man, one of the world's three largest traders in sugar, coffee and cocoa, is also Europe's largest managed futures firm.

[26] In the United States, and also in Malaysia, locals are the lubricant in exchange operations. In the United Kingdom, locals are a 1980s innovation, seemingly not always successful. On London Fox, for instance, the number of locals has dwindled from 22 in 1990 to 5 early 1993.

operations can be criticized (a large part of the disciplinary measures taken by the exchanges or legal authorities concern illegal activities by locals), their profits only account for a very minor part of exchange transactions value.

43. Brokerage houses (also called commission houses or futures commission merchants) act basically as intermediaries, working on fixed commissions. Several also run their own managed funds. Many brokerage houses are active on a large number of commodity and financial futures exchanges, stock markets, and undertake related banking activities, often worldwide (among the large brokerage houses, only Refco specializes in futures markets). They can be quite active on their own account, either speculating on future price developments, or undertaking arbitrage transactions (between futures and options contracts, or between exchange contracts and OTC risk management instruments that they offer to clients, such as average-rate options). A handful of large brokerage houses dominate (it is reported that Refco has about one fifth of world brokerage business, with Merrill Lynch and PaineWebber following closely) and concentration among brokerages appears to have increased in recent years.

44. Banks also act as brokers, but they have become more important for their OTC-related activities, mainly as major swaps dealers. Banks (and a few trade houses) normally prefer to match swaps back to back, but as long as no fully matching deals have been concluded, the price risks inherent in swaps are usually laid off on exchanges. It is reported that swap-related activities account for as much as 15 to 20 per cent of open interest on the NYMEX crude oil contract, including a major part of the open interest in further-out contract months;[27] estimates for other exchanges are not available, although it can be expected that, on the IPE for Brent crude oil and on the LME, the banks also account for a large part of open positions. Partly as a result of their OTC activities, banks have also become important as members of the futures exchanges for fuels, and, in particular, for metals on the LME.[28] Some banks have also become important as option market makers.

45. There are different types of non-trade-related large speculators. The most important are the investment funds, of which there are two sorts: managed funds and institutional investors. Especially in the United States, the market share of large private investors is also not negligible. In a sampling by the CFTC of its large trader reports in late 1983 it was found that, out of a total of around 1,400 accounts with reportable (large) positions in 13

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[27] "Oil Swaps: A potential source of new business for NYMEX", Futures Industry, November/December 1992. Other sources estimate the share of swap-related business in crude oil turnover at 30 per cent.

[28] This was also linked to anticipated regulatory changes in the European Community which, through a tightening of capital adequacy rules, would particularly affect LME operations. It was expected that these changes would provide "a more favourable regime for banks indulging in investment services than for commodities or securities brokers" ("Bullion, banks and the LME", Metal Bulletin, 26 November 1992). This resulted in some small independent brokerage companies being absorbed by bigger industrial groups, and others felt forced to move to less expensive, and less influentual, membership categories. It now seems that LME companies are to be exempted from new EC capital adequacy rules.

futures markets, more than one quarter was in the hands of large individual speculators.[29] These individuals operate very much like investment funds, among other reasons because they often base their decisions on newsletters published by commodity trade advisers. All these types of speculators are not directly active on the exchange but pass through brokers for execution of their orders.

46. Managed funds consist of funds put together by individuals or institutions with the purpose of undertaking futures market operations. They are run by professional money managers.[30] Experience has shown that all but the largest private speculators are forced out of the market before long, while the staying power and diversification possibilities which result from having assembled the funds of a number of smaller speculators allow longer survival and even profits. In the United States, where managed funds are most developed,[31] over 1,000 funds are active in futures markets. Of these, a small number account for the major part of investments: in 1988, 41 commodity funds and pools, managing between US$ 10 million and 1 billion, accounted for 82 per cent of the net assets of all managed funds. Managed funds are in general active in a wide array of markets. In a 1988/89 survey, it was found that commodity funds and pools accounted on average for 1 to 6 per cent of volume as well as open interest in medium-sized and large United States commodity futures markets in the United States.[32] Since then, with the further growth of managed funds, their share has probably increased. However, in several commodity markets, funds have come up against the large market power of trade houses and it seems some have decided to withdraw from these markets.

47. Institutional investors are mainly pension and insurance funds which consider the use of commodity futures markets as a way to improve the composition of their investment

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[29] Commodity Futures Trading Commission, A study of the nature, extent and effects of futures trading by persons possessing material, nonpublic information, report submitted to the Committee on Agriculture of the House of Representatives, and the Committee on Agriculture, Nutrition and Forestry of the Senate, September 1984, p. 74. It is possible that some of these accounts were in effect managed funds (in one form of managed fund, a commodity trading adviser is given power of attorney over individual accounts), but in 1983, probably few, if any, accounts fell into this category.

[30] There are three forms: individually managed futures accounts, with a commodities trading adviser trading on behalf of a number of people; public futures funds, with shares offered to the general public; and private futures pools, offered by commodity pool operators directly to potential investors. Funds and pools often divide their funds among several trading advisers, who in turn may trade for several funds and pools.

[31] Of the estimated US$21 billion under management in managed funds in late 1992, Europe accounted for approximately $2 billion and Japan for another $2 billion; the rest was almost entirely in the United States.

[32] Commodity Futures Trading Commission, Division for Economic Analysis, Survey of commodity pool operators in futures markets with an analysis of interday position changes, January 1991.

portfolio. Since the late 1980s they are gradually diversifying into instruments such as futures and option contracts. These investors tend to use a commodities trading adviser to manage their investments and are an important growth market for the managed fund industry.

48. There are a few firms specialized in arbitrage transactions, especially in the arbitrage between options and futures, using highly developed computer programmes. These firms are highly capitalized and are often specialized subsidiaries of banks. Every time that futures prices change, option prices should also change (a put and a call option can be put together to create a synthetic futures contract). Therefore the proportion of arbitrage transactions in daily turnover is very high. Arbitrage is a low-risk activity and so these firms leave a large part of their positions open overnight. They may account for as much as one quarter of open interest on some markets.[33] Current reporting systems do not allow a proper evaluation of their role.

49. Some participants on commodity markets limit themselves to pure hedging transactions. Others undertake both trade-related and non-trade-related transactions but it can be assumed that their physical trade activities ensure that their non-trade-related transactions reflect physical market conditions. Others have no links to the underlying physical market. The balance of participation among these groups differs from exchange to exchange. It is estimated that 85-90 per cent of turnover on the LME is in hands of metal producing, consuming or trading companies and yet these trade-related companies have started to worry about the influence of investment funds.[34] On the United States commodity markets, non-trade-related participation in futures is larger, accounting for 20-40 per cent of open positions and up to half of total turnover on the soft commodities markets; these percentages are even higher on the precious metals markets.[35]

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[33] Mainly in financial markets, fuels, metals, and cereals; the other commodity markets are seen as not having enough liquidity.

[34] Note, for instance, the remarks by Phillip Crowson, chief economist of RTZ Corporation, the world's largest mining company, on metals prices in late 1992, which did not reflect fundamentals. He blamed investment funds, stating that "given the size of the metals markets, only a small shift in fund investment pushes prices up substantially." ("Little to celebrate at LME's annual shindig", Financial Times, 21 October 1992). See also "Funds shed light on metals involvement", Metal Bulletin, 19 November 1992.

[35] The balance of participation in options contracts is different. The participants here are mainly producers, consumers, traders and private speculators (often buying options), sellers are to a large extent so-called option market makers - professional arbitrage companies such as CRT or O'Connor Partners, banks such as Société Générale and First Continental Bank, and a few large brokerages. In the gold market, Central Banks have also for a long time been sellers of call options, as a way to valorize their gold stocks. Funds are only now becoming involved to some extent, basically buying options.

2. The modus operandi of the major market participants, and influence thereof on price formation

50. Two categories of major users appears to have considerable influence in commodity futures markets: investment funds and international trade houses. Their role is discussed below.

(a) The role of investment funds

51. In most commodity futures markets, the role of investment funds is increasing. The large majority of investment fund activity is concentrated in the nearby futures contracts, with most of the remainder in the next maturity.[36] They are hardly active in the further away contract months and are only starting to become active in the options markets. The size of the individual funds is generally very large compared to the turnover on, in particular, agricultural futures markets, and only the nearby futures contracts provide a volume in which they find it easy to trade.

52. Investment funds easily shift between financial markets and commodity futures markets as well as among commodity futures markets. Because of their size, this shifting can have a major influence on prices. The activities of investment funds have therefore upset many hedgers. For instance, "many of Chicago's traditional agricultural traders say that they are worried about the widening parameters of risk exposure in their markets pumped up on money from out-of-favour financial instrument markets."[37] Developments in the underlying physical market may become of secondary importance. In 1987, "Chicago's agricultural futures markets were caught in a downslide (...) as traders were forced to liquidate positions to cover losses in financial futures. (...) Some of the big brokerage houses had pulled their traders out of the agricultural pits as they were forced to raise margins in the financial markets."[38] The same happened in late 1987, when LME metal prices increased unexpectedly. "Merchants (...) blamed the rapid price movements in the futures markets on speculators, who apparently took their money out of equities when Iraq invaded Kuwait, and invested in commodities."[39]

53. A related problem is that a large majority (80-85 per cent) of investment funds use technical analysis systems as a basis for their investment decisions. The most important systems used are trend-following, fairly mechanical decision-guiding systems, with many fund managers accepting the systems' signals almost without question, ignoring the market's

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[36] They are, however, becoming more sophisticated. The share of their transactions in nearby months, now around 80 per cent, is likely to reduce sharply when they start profiting more from the spreads between different contract months.

[37] World Commodity Review, 27 July 1988.

[38] Financial Times, 30 October 1987.

[39] Metal Bulletin, 6 September 1990.

fundamentals.[40] All trend-following systems are quite similar,[41] and certain "trigger signals" may cause a massive run into or out of the market. A commodity price decline which would trigger sales by one investment fund would be reinforced by this fund's sales, and thus trigger sales by others. This snowball effect is much feared by commercial interests. It should be noted, however, that the effects in most cases are short-lived, and negative consequences can be avoided by well-informed trade users. Also, this behaviour of investment funds may offer additional profit opportunities to hedgers and floor traders alike.[42] Nevertheless, if futures market volatility is high, the result of a hedging transaction may be the opposite of that intended, especially for a less well-informed hedger.[43]

54. This may be an area where the interests of commodity buyers and sellers and of those managing exchanges diverge, at least in the short run. Commodity exchanges are commercial operations, making their profits on a commission basis: the higher the turnover, the higher the profits. As investment funds are potentially an important source of growth, it is not surprising that most exchanges try to draw investment funds to the market by making business easier for them. In the United States, one important way exchanges do this is by proposing higher

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[40] As these funds in general trade on a dozen or so different markets, following the fundamentals of every market would appear impossible for fund managers.

[41] A 1988/89 CFTC survey, for instance, found that, when managed funds held positions in the same market, they were normally on the same side, be it long or short - on average 83 per cent of funds were on one side and 17 per cent on the other (the CFTC did not weigh the funds according to their size, which would have been useful considering the extreme concentration in this group). The survey also found that, when managed funds traded, they tended to trade in the same direction; a finding which is corroborated by other research showing that a range of trend-following systems tend to give similar buying and selling signals. However, managed funds were only responsible for about one quarter of speculative activity in terms of position changes. Other speculators accounted for the rest, and it was found that they did not tend to trade in the same direction (CFTC, op.cit., January 1991).

[42] Occasionally, however, a more prolonged market anomaly may arise, as in the case of the prolonged decline in coffee prices in 1992 (from 70 cts/lb in March to 49 cts/lb in early August), reinforced by investment fund activity - the selling of futures contracts which induced further sales. This was followed by a strong increase (from 48 cts/lb in late August to 84 cts in late December) in which funds played an equally important role. Traders reacted to the price decline by raising premiums for the coffees they had in stock. This shows the extent to which the market had lost its role as price reference mechanism. Producers were unable to claim such premium increases, and received only the standard reference prices determined on the futures market.

[43] When volatility is very high - which is often a typical result of large fund activity - it becomes very difficult to execute standard hedging or price fixing orders. When prices move very fast, a stop-order (the order to sell or buy contracts when a certain price is reached) may be executed easily 5 per cent away from the intended price level. Those with poor communications - as is the case of many developing country producers and exporters - suffer most from this situation.

speculative position limits (which define the number of futures and/or option contracts that any entity is allowed to hold for speculative reasons), or even an abolition of position limits. As investment funds typically trade in large amounts,[44] the existing position limits are, for them, relatively low.[45] Many commercial hedgers argue that this should remain so. United States agricultural producer groups and trading firms consistently protest against proposals to raise position limits, arguing that this may result in a small number of entities holding large numbers of contracts (thus posing a threat of manipulation), and that it would permit technical traders to take larger positions. This could result in greater price volatility and less representative prices. In Europe, formal position limits do not exist. Rather, when exchange officials (and not regulators) deem participants' market shares to be too high, they discuss the matter with the participants informally.

55. What should be the role of non-trade-related participants, and in particular large investment funds, in commodity futures markets is a difficult issue. While they provide significant additional liquidity, they may also distort prices through their trading activities. It is worth considering whether increased transparency on their role could enable commodity buyers and sellers to make better decisions on when to be active in a contract and when not. Could increased surveillance help to limit possibilities for price distorting activities by non-trade-related participants? Are speculative limits a good means of keeping their role within bounds?

(b) International trade houses

56. While international trade houses make extensive use of futures and options to minimize their price risks, most are not just hedging. An important motivation for trade houses to speculate is that they have preferential access to information, and thus may be in a position to anticipate market movements.[46] To give an example: it is reported that, when Marc Rich, a company that is involved in extensive aluminium trading on behalf of the republics of the Commonwealth of Independent States, received news that its suppliers in Russia had production and transportation problems, the company went long on the LME. When news of these problems in Russian aluminium production became public, prices

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[44] A few examples of their normal trading units are as follows: maize, 100 contracts, compared to 10 contracts for commercial hedgers; gold, 300-500 contracts, compared to 10-100 contracts for commercial hedgers; crude oil, 500-1,000 contracts, compared to 100 contracts for commercial hedgers. (Futures, November 1991)

[45] Position limits were, for example, 600 maize contracts for the nearest month on the CBOT, and, until mid-1992 (when limits were removed), 6,000 for the COMEX gold contract. On some exchanges, position limits have already been significantly increased over the past decade: on the cereals markets, for instance, position limits in 1990 were eight times as high as in 1980 while the volume of physical trade was essentially the same.

[46] While trading on the basis of inside information is not illegal on futures markets, it has created problems. See, for example, "Insider trading on the coffee exchange: it is not a crime", The Wall Street Journal, 26 March 1991.

increased and Marc Rich made a sizeable profit.[47] On the other hand, trading companies can be mistaken when they think they can anticipate markets - some costly failures have been the result.[48] In recent years, banks have put trading companies under tighter credit control in an effort to avoid this type of speculation.

57. Large trading houses can also try to influence market prices in order to make profits. One example is the case of squeezes, where trade houses can build up such a dominant position that they can manipulate the market (see section 3 below). Even on the very liquid Chicago cereals market the size of deliveries is becoming something of a problem. In recent years, half of the positions still open the day before delivery procedures start are satisfied through actual delivery. Between 1982 and 1989, the four largest maize futures buyers held one third of the contracts outstanding on the day before delivery procedures started - which raises the spectre of manipulation.[49]

58. Faced with the concentration of market power in the hands of only a few large trade houses, it may be wondered how exchanges and their regulators can help in reducing the likelihood of price distortions. One way might be to improve public reporting so as to give other market participants some forewarning on large-scale activities of trade houses likely to distort prices. Another way might be improved reporting and surveillance to reduce the likelihood of price manipulation.

3. Problems of manipulation

59. Most manipulation attempts involve simultaneous transactions on the futures and on the physical market; it is therefore trade-related actors (and in particular trade houses) who

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[47] FORBES, 22 June 1992. The Russian aluminium factories could have done the same, but probably did not have the necessary capital. Another recent example was Phibro's oil trading in 1991, based on inside information on upcoming United States Government oil sales.

[48] For instance, it was reported that in the second half of the 1980s two trade companies, Transworld Oil and Klöckner, both lost hundreds of millions of dollars after speculation on oil price developments went wrong. Steve Butler, "Klöckner caught out by oil fall", Financial Times, 13 October 1988; "Brent oil in trouble", The Economist, 17 December 1988. In financial futures, a well-known case is that of the United Kingdom company Allied Lyons, which lost £150 million speculating in currencies (Simon Brady, "Allied-Lyon's deadly game", Euromoney, April 1991).

[49] Scott Kilman, "Study of grain deliveries could spur changes in the CBOT's futures process", Wall Street Journal, 22 April 1991; Howard Simon, "Grain group questions CBOT futures reliability", Journal of Commerce, 22 April 1991. See also Jeffrey Taylor and Scott Kilman, "Critics of CBOT's delivery system say it gives a few grain firms power to manipulate prices", Wall Street Journal, 2 December 1992. See also studies by the Mid America Institute for Public Policy Research, "Grain futures contracts: an economic appraisal", and the Standford Food Research Institute, "Deliveries on Chicago Board of Trade wheat, maize and soya bean futures contracts, 1964/65-1988/89", reproduced in CFTC, op cit., September 1991.

are best placed to try to manipulate a market. Recently, however, investment funds are said to have tried to manipulate some contracts. While markets with limited liquidity are particularly vulnerable to manipulation attempts, even the world's largest markets can be the target of manipulation under certain circumstances. One only has to recall the famous Bunker Hunt efforts in the early 1980s to try to squeeze the world silver market, which followed his earlier squeeze attempt of the world soyabean market, even though both of these markets were among the most actively traded of any commodity futures.

60. Manipulation is possible whenever one entity acquires excessive control over demand or supply - or a certain key small proportion of supply, if quality and delivery specifications are too narrow - in the crucial period in which delivery is specified. In successful examples of manipulation, other suppliers or users cannot respond quickly enough to deliver or receive quantities in the specified location within the specified time. The ease with which a market for commodity futures can be manipulated depends partially upon the delivery terms specified for that futures market. The more restrictive are the limitations upon acceptable grades, origins, delivery points and alternative delivery procedures, the tighter are the delivery times and the shorter is the period of notice that has to be given for delivery to occur at the expiry of the contract, the easier it becomes for an individual entity or a group to manipulate the market.

61. In the short run, manipulation is in general not bad for producers. Most attempts are squeezes which result in higher prices.[50] Nevertheless, manipulation has several undoubtedly harmful repercussions. It creates a new source of uncertainty and risk. It reduces faith in the objectivity of the price that is determined on the market, and which is often used as the basis for much of world market trade.[51] Finally, because the leading futures markets are located in a few developed market economies and most contracts (with the exceptions of sugar, palm oil and rubber) specify delivery in those countries, institutions based there have better access to the markets than others and are better placed to manipulate the price.

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[50] Note that in all instances in which developing country exporters have tried to push up prices by way of interventions on the futures markets, prices did go up, but not to the extent desired, and these efforts have been very costly for the countries involved. It is reported that Malaysia lost some 20 million pounds when it tried to push up tin prices in 1981/82. In 1977, three companies from El Salvador and Brazil obtained three quarters of the open positions of the December coffee contracts, but were forced to close out their positions, at a loss, by the CFTC. From 1978 to 1980 a group of Latin American coffee producers, the Bogota Group, later organized into a corporation called Pancafé, was operating on futures markets in New York and London, in an attempt to influence prices. Again, CFTC strongly interfered in its operations, and while the Bogota Group had profits for a short period, it soon began to have problems, and the scheme was given up in the mid-1980s.

[51] In the case of direct contracts between producers and consumers based on average prices, as are most contracts in the base metal sector, consumers may (and do) protest against having to pay prices that are artificially inflated by manipulation attempts. In order to maintain good relations with their customers, producers may be forced to give price concessions. If they had hedged their sale, this implies that the loss they made on their hedge is no longer fully compensated by a higher sales price.

62. It is often difficult to determine what is manipulation and what is not. According to a board member of the LME, "there is a narrow dividing line between freedom and excess and from time to time people take advantage and manipulate the market. This has happened to all the metals in the past three years."[52] The same is true of the fuels and soft commodities markets. In many cases, a company has more or less accidentally built up a position of strength and profits from this. This often takes place in the period just before the closure of a contract, and consists of game playing with deliverable qualities. For instance, in the sugar market, a threat of delivery of Argentinian sugar (not very popular because of loading and transport problems) is sometimes used to force those who are long out of the market, thus depressing prices. Similarly, if it is known that the holder of a large short position is sitting on a stock of a highly-valued origin (e.g. Thai sugar), longs can keep their positions to force delivery.[53] In the metals market, in late 1990 a Swiss-based trade house forced a number of Japanese trade houses to deliver high-quality aluminium (which normally commands a premium over the aluminium which is the standard of the LME contract) to LME warehouses, and consequently took delivery of this metal.[54] In the fuel market, a New-York based oil company, Phibro, managed to force delivery of fuel oil on the Singapore exchange, thus obtaining a cheap supply.[55] Although this type of action results in more volatile prices, it is not in general considered to be manipulation by regulatory authorities. Market participants are supposed to have access to the information they need to keep out of these situations, and if they want to play a game of arm wrestling, they are entitled to do so, but it would be better for smaller market participants to keep out of such a situation.

63. At a certain moment, however, an invisible dividing line is passed, and activities start to fall into the category of concerted efforts to increase or decrease prices against which exchange officials and regulatory authorities act much more severely. The goals of the companies that try to manipulate prices may include taking cheap delivery of products or being able to sell at a high price; profiting through an increase or decrease in the prices to be paid in executable-order contracts; strengthening their own bargaining position in periodic

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[52] Quoted in Kenneth Gooding, "LME acts to set early warning of squeezes", Financial Times, 9 April 1991.

[53] Based on industry sources. Note that like all manipulation attempts, this carries risks. One such trade house, trying to force another to deliver Thai sugar, failed in this attempt and was obliged to pay very high premiums in order to obtain Thai sugar in the spot market to fulfil its physical delivery obligations.

[54] World Commodity Report, 8 November 1990; Financial Times, 23 November 1990.

[55] Marie-Anne Gries, "Phibro seen as big winner in Simex fuel squeeze", Journal of Commerce, 1 September 1992. Phibro held about half of the long positions for the September fuel oil contract.

price negotiations;[56] or forcing the price of a commodity down in order to depress the share price of a company producing that commodity so that it can be taken over more cheaply.

64. The classic form of manipulation is the squeeze or corner which involves remaining long in futures while retaining a large part of the available stocks of the underlying commodity. Shorts are forced to deliver and thus have to buy the commodity from the longs for a high and presumably highly profitable price. Squeezes may start for technical reasons, such as a short-term shortage of the commodity deliverable to the exchange warehouses. However, trade houses generally anticipate this type of technical squeeze and profit from it.[57] This kind of manipulation is very difficult to prove. Therefore, the decision of regulatory authorities to intervene or not is necessarily a subjective one.

65. A recent example of an alleged corner occurred on the CBOT soyabean market. In mid-1989 the Italian food concern Ferruzzi had an open position in a nearby futures contract - which could be held for taking delivery - representing 23 million bushels of soyabeans, while only 12 million bushels were stored in Chicago. Ferruzzi controlled three quarters of this stock. Those short in futures contracts were thus threatened with a choice between paying high prices for soyabeans or paying the high fines that the exchange imposes when delivery obligations are not met. However, the CBOT board and the CFTC decided that Ferruzzi was trying to corner the market and forced the company to liquidate most of its contracts. Ferruzzi did so but accused the former CBOT chairman and other officials of "manipulating soyabean prices downward ... to avoid losses to their firms."[58] The company of the CBOT chairman had a short position of 110,000 bushels for the relevant contract, and 2,935 million bushels for customers' accounts; another board member was president of a major grain company, with a short position of 910,000 bushels, and 2,215 million bushels for customers' accounts. United States regulations do not clearly address the possibility of this kind of conflict of interest. Ferruzzi's charges were not found justified by American courts, but the case illustrates the potential difficulties with this type of intervention.[59] Indeed, an earlier

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[56] This was reportedly attempted by Japanese zinc smelters early in 1992, when they pushed up prices to improve their bargaining position in ongoing price negotiations with Australian mines. The smelters hoped that higher prices would make the producers feel better off and thus more willing to give way in these negotiations. (Kenneth Gooding, "Fun and games at the London Metal Exchange", Financial Times, 31 January 1992; Kenneth Gooding, "Rumour race on zinc squeeze", World Commodity Report, 23 January 1992)

[57] For instance, in a case of that kind on the aluminium market in June 1988, "major market-players (were) undoubtedly working the squeeze to their own advantage if not actually perpetuating it" (Metal Bulletin, 9 June 1988).

[58] Greg Burns, "Big grain trader takes on CBOT", Chicago Sun-Times, 13 September 1990.

[59] Many farmers also felt that the CBOT market intervention went against their interests, and protested strongly (see, for example, "Illinois farm bureau's president assails soya beans futures ruling", Investor's Daily, 24 August 1989). Legislators reacted by asking for a probe on "what safeguards exist to protect farmers' interests" when market regulators decide to

UNCTAD report[60] noted that while regulatory intervention measures of the type described above were taken when they concerned non-United States companies, regulators were much more lenient when United States companies were involved.

66. This type of squeeze occurs quite often on the LME for all metals.[61] Cases where LME price developments have little to do with developments in the underlying physical market, or where LME stocks increase rapidly at the same time that prices are increasing, are quite common. This discourages potential users. For instance the Chairman of Zambia's copper mining company ZCCM commented in late 1990, after a spate of manipulative occurrences, "such developments imply a degree of market manipulation which is unacceptable to the Zambian mining industry which previously expressed confidence in LME quotations."[62] According to a trader, "Traders generally view squeezes as good for business, because they push up trading volume. But too hard a squeeze can be bad for business because it hurts the big users of the London exchange."[63] Most traders resist efforts to reduce the possibilities for market manipulation. According to one large merchant, "The LME is interfering too much. This market is not for widows and orphans. The exchange is protecting the small players and they do not make the market."[64]

67. Occasional discretionary regulatory interventions will remain necessary as long as some market players consider they are in a position to influence the market, even though such interventions necessarily disrupt the market. In order for buyers and sellers to have confidence in the market, it might be useful to reduce the number of discretionary regulatory interventions through the adoption of explicit measures such as a limit to the number of

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intervene in price formation (see, "Senators seek CFTC probe of recent soya bean fracas", Journal of Commerce, 21 July 1989.

[60] "Commodity exchanges and their impact on the trade of developing countries", TD/B/C.1/248, 18 May 1983.

[61] For instance in 1987, "the markets are convinced that the LME copper backwardation is the result of manipulative action by one major trader - Phibro." (Metal Bulletin, 26 November 1987). In 1988, "the LME held an emergency meeting (...) over rising concerns that metal prices in several exchange markets were being manipulated higher by traders and speculators who were moving to corner supplies." (World Commodity Report, 15 June 1988). In 1992, "a small number of zinc producers and one trader, reported to control between them about 1m tonnes of annual refined zinc output or about 15 to 20 per cent of the western world total, have been using options to squeeze the market." (Kenneth Gooding, "Nine-month zinc squeeze fades in heavy trade", Financial Times, 24 September 1992).

[62] Metal Bulletin, 15 October 1990.

[63] Wall Street Journal, 4 December 1991.

[64] Kenneth Gooding, "LME acts to get early warning of squeezes", Financial Times, 9 April 1991.

deliveries any one trader can make or take.[65] Also, to ensure that the interests of all those concerned by market manipulation attempts are appropriately taken into account when decisions on regulatory invention are made, representation of all relevant parties on commodity exchange committees would be useful. Government regulations could be a means of implementing these ideas.

[65] See the proposals made by S. Craig Pirrong, D. Haddock and R. Kormendi, "Grain futures contracts: an economic appraisal", Mid America Institute for Public Policy Research, 15 July 1991, reproduced in CFTC, op. cit., September 1991 (p. 317).

Chapter III

REGULATORY CONDITIONS AFFECTING PARTICIPATION AND USE OF COMMODITY FUTURES AND OPTIONS EXCHANGES BY COMMODITY BUYERS AND SELLERS[66]

A. Introduction

68. The role of regulation of futures and options markets is to ensure openly competitive, transparent, efficient and liquid markets through a framework of binding rules. As the major original purpose of commodity exchanges was to develop an efficient hedging mechanism for physical trade, regulation was designed to protect the interests of producers, processors, traders and consumers when they use the exchanges for trade-related reasons. Another objective of regulation, especially in the United States and United Kingdom, is to protect small private investors from fraud. More recently, regulators have also taken into account the needs of large institutional investors. In the United States, this has been in response to the increasing number of managed funds that have taken their business off-exchange. While providing confidence-building measures, regulation also raises compliance costs. Regulators face the problem of choosing the "right level" of regulation as too much regulation would raise costs to the point where it would erode participation in the futures and options markets (speculators would prefer trading in stock markets and physical trade interests would be tempted not to hedge price risks), but too little would enable fraud and manipulation to occur too frequently and in turn discourage confidence and participation in the markets.

69. Various levels of regulation of futures and options markets usually exist. First, regulation by the exchanges themselves is used to guarantee financially safe and fair trading as well as market credibility and integrity on a day-to-day basis. Second, different forms of government regulatory mechanisms installed in countries where futures and options markets are located are aimed at ensuring the orderly functioning and reliability of the markets in general. Annex table II provides a brief overview of the regulatory bodies and their functions in countries for which information is available. On a third level, the government determines the tax treatment of hedging transactions (see Box 1).

B. Financial safety on futures and options markets

70. Financial safety requirements of futures and options markets are designed to protect markets and funds from credit and systemic risk and to ensure that only those persons who have been deemed creditworthy have access to the markets. Regulation concerning these requirements involves two major issues: rules for exchanges, clearing houses or their members and the protection of customer funds.

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[66] The considerations set out in sections B-D of this chapter draw on the regulation of futures and options exchanges in the United States, the United Kingdom, France, Japan, Brazil, Singapore, and Malaysia. Specific reference to the national regulations of these countries is only made when reliable information is available.

Box 1: The tax status of hedging transactions[61]

The tax status of hedging transactions is an important general aspect of regulation which has attracted particular attention in the United States in the last few years. A properly constructed hedge ensures that the value of the hedge changes inversely to that of the hedged property. In the ideal case where the tax results follow the economics of the transaction, gains (losses) on the hedge should offset losses (gains) on the hedged property. This tax result - or 'character match' as it is sometimes called - occurs only if tax regulations provide that property that was integrally related to the taxpayer's trade or business is treated as generating ordinary income or loss rather than capital gain or loss. As an illustration, take the situation of a grain processor who lacks storage space to store all of the grain that he anticipates using in the coming months. Tax treatment would be the same whether he purchases futures contracts that enable him to obtain the grain needed on a specified future date or builds adequate new storage facilities. This treatment would be based on the view that the grain futures purchased by the processor were not separate and apart from his processing activities.

In 1988, the United States Supreme Court ruled in the Arkansas Best case that the gain or loss on a futures contract acquired as a surrogate for inventory will be taxed as ordinary income because it is an integral part of the inventory purchase system and thus a listed exception to capital asset characterization. However, many hedges involve positions that are offsets to - rather than substitutes for - a taxpayer's inventory. The question, therefore, arises whether any of those hedges generate ordinary income or loss. The Internal Revenue Service (IRS) has, in fact, interpreted this Court decision to mean that only a narrow category of legitimate business hedges (long hedges) will receive ordinary tax treatment. As this interpretation has caused uncertainty as to the characterization of income and loss from hedging activity, hedgers face the dilemma whether to hedge their business activity and risk subsequent adverse tax treatment or forgo the protection of hedging through futures and options and leave themselves open to market risk. A possible consequence of this is that those individuals who have the most reliable and up-to-date information about the market situation and are, therefore, relatively less exposed to market risk may not be using commodity exchanges. Thus the well informed market participants may well keep out of the price discovery process.

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61 See Keith Schap; "Incompatible things called by the same name", Futures Magazine, December 1992.

1. Rules for exchanges, clearing houses or their members

71. In order to give users general security and legal certainty, exchanges and contracts traded on exchanges as well as companies and individuals doing business on exchanges (such as clearing houses or brokers) must be recognized, i.e., they must be authorized, licensed or otherwise approved by regulatory authorities. Competency criteria, which are present in all jurisdictions, are used to judge whether an individual is fit to do business on an exchange in terms of educational qualifications and trading experience, any history of violations and general considerations with regard to his character. In addition, there are financial requirements which concern the capital basis of clearing houses, clearing members or financial intermediaries. Under the national regulations of the United Kingdom and France clearing houses have to meet capital standards deemed sufficient for the orderly execution of business while they do not have to do so in the United States and Japan. Clearing members must hold certain minimum amounts of capital in the United States, the United Kingdom and France. There are capital-based qualifications for members of exchanges and financial intermediaries in all the countries surveyed here.[62] The rules are enforced through financial surveillance programmes which include procedures for assessing adverse trends in the financial condition of members and of the markets which could pose financial risks to its members.

72. Strict financial requirements imposed, for example, on clearing members may, however, not always have welcome implications. High capital adequacy standards could force members with trade-related interests out of those functions since it is often easier for non-trade-related market participants, such as banks and financial institutions, to meet the standards. Accordingly, regulators have to find a balance between an optimal level of financial security given to exchange participants and the ability of trade-related users to be exchange members.

2. The protection of customer funds

73. Some jurisdictions rely primarily on the segregation of customer accounts from those of a clearing organization or financial intermediary to protect customer funds. This means that an exchange or clearing member must separately account for each customer's funds on his books and he cannot use these funds to purchase, margin, secure or extend credit on behalf of any person other than that customer. In addition, the segregation of accounts is designed to ensure that, in the event of the insolvency of a firm, client money is protected from the claims of general creditors and from any right of set-off by the depository where the money is held. The decision of what must be segregated and for whom differs from jurisdiction to jurisdiction. In the United Sates, all accounts have to be segregated. In the United Kingdom, all customers except for inexperienced private customers can opt out of the segregation requirement. This may allow them to pay lower commission fees. In France and Japan, where clearing houses are part of the exchanges, no segregation of accounts exists. However, the fact that MATIF, Japanese and Singapore exchanges are also clearing houses and therefore a party to all transactions means that the customers can be sure to get back their

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[62] In Japan, only firms that trade for their own accounts are subject to the risk-based capital adequacy requirements.

funds and securities in the event of a clearing member's failure. The United Kingdom has additional requirements relating to insurance or performance guarantees for the case of an intermediary's insolvency. These guarantees include a compensation fund which provides an additional safety net in favour both of clients and other intermediaries in the case of insolvency of one of the financial intermediaries.

74. The rules on protection of customer funds were primarily designed to protect small private investors. Their efficiency for trade-related users is, however, unclear. For example, trade houses may be required to hold more funds than would seem necessary for the smooth operation of business because they cannot aggregate accounts of regular trade customers. This is especially important for the LME where contracts are only settled on expiry.

C. Fairness of futures and options trading

75. Fairness of futures and options trading may be defined as representing those aspects of customer protection that address the transparency of exchange trading as well as the integrity, skill and diligence of those who deal for customers. These aspects mainly relate to the structure of exchange committees, dual and insider trading, and mechanisms that increase the transparency of exchange trading such as audit trails and reporting requirements.

1. The structure of exchange committees

76. The structure of exchange committees determines who decides the rules for exchange operations. As exchanges are private companies, their main concern will be to attract the highest possible amount of business so as to raise turnover, income and reputation.[63] However, as pointed out in chapter II, attracting more and more business to an exchange may not always have welcome implications for the balance of participation and price discovery.

77. The structure of exchange committees can also have a bearing on the perceptions of users about the equity of exchange rules. If, for example, no producer representative is part of an exchange committee, the administration of the exchange may not take producer interests sufficiently into account although, because of their role in the price discovery process, exchanges have substantial implications for the financial situation of producers.[64] In the United States dissatisfaction voiced by farmers as well as problems such as the Ferruzzi soya-bean case have recently led to a change in regulation. Exchanges in the United States have been required by the Futures Trading Practices Act 1992 to have at least 10 per cent of their members come from outside the exchange membership. In addition, no less than 10 per cent of the boards must represent farmers, producers, traders, and exporters. For the avoidance of conflicts of interest, the Act provides that a member of a committee or board of an exchange must abstain from voting on any matter if that member, or his affiliate, parent or subsidiary, has a direct financial interest in the subject concerned. A member of an exchange

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[63] For example, the cost of a seat on an exchange is directly related to the level of business done on the exchange and its reputation.

[64] See footnote 17 for the view of a larger trader, Cargill, on this point.

board or committee is also prohibited from voting on "any significant action that would not be submitted to the CFTC for its prior approval, if ... the member knowingly has a direct and substantial interest in the result of the vote, based either on positions held personally or at an affiliated firm" [section 217 (A) (ii)]. The term "any significant action that would not be submitted to the CFTC for its prior approval" is defined as "any nonphysical emergency rule, ... or ... any changes in margin levels designed to respond to extraordinary market conditions that are likely to have a substantial effect on prices in any contract traded on such market" [idem (B) (i) and (ii)]. Regulators outside the United States seem not to have set any specific rules with respect to the composition of the board of directors.[65] It appears essential, nevertheless, that buyers and sellers should be adequately represented.

2. Dual and insider trading

78. The concept of dual trading refers to floor traders who act as brokers in bringing customer orders to the market and are also allowed to trade for their own account. Advocates of this concept claim that customers benefit from dual trading because it reduces the cost of trading by allowing for lower commission charges. Critics argue that it causes a conflict of interest between brokers and their customers. Such conflict of interest may emerge when a broker has to execute a customer order which he expects to affect prices. The broker could then trade for his own account before he executes the customer order and obtain a more favourable price than his customer.

79. Insider trading or trading on the basis of non-public information has usually been allowed on commodity exchanges. Critics of insider trading hold that all market participants have the right to be informed of matters that may affect their trading decisions. Those maintaining that insider trading should be allowed argue that there are vital difference between the purposes and function of stock and commodity markets. In particular, they hold that insider trading does not exist in commodity markets because there is no insider information. According to them, no one can have special knowledge about, for example, grain or soyabeans because the market for these commodities is the same for all grain and soyabeans that meet exchange specifications. This is unlike the stock market where investors buy and sell shares in individual companies based on their assessment of the value of that company's prospects. It may, however, be argued that knowledge about changes in the level of deliverable supply of a specific commodity due, for example, to harvest failures or transportation problems, constitutes insider information.

80. In the United States, legislation with respect to dual trading has recently been tightened. Whereas prior to the Futures Trading Practices Act 1992 the CFTC could - but was not required to - ban dual trading, the Commission is now required to ban dual trading unless a market meets specific conditions. These conditions include the installation of the improved audit trail system discussed below, a daily average trading volume of at least 8,000 contracts, and the proof that banning dual trading would harm the effectiveness of the market for hedging or price discovery by reducing liquidity. Regarding insider trading, the Bill makes it a felony for employees or members of exchanges "willfully and knowingly to [use

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[65] On the LME, for example, the board is composed of elected officials from the ring dealing community but there are no rules concerning its composition.

or] disclose ... any material nonpublic information obtained ... [in the course of official] duties" [section 214 (a) (1)]. The Bill makes it also a felony for any person "willfully and knowingly to trade for such person's own account, or for or on behalf of any account ... on the basis of any material nonpublic information that such person knows was obtained in violation of paragraph (1) ..." quoted above [section 214 (a) (2)].

81. In the United Kingdom, there are no statutory restrictions on dual trading or specific provisions regarding insider trading in the context of margined transactions. In France, dual trading is prohibited. In Japan, insider trading is prohibited whereas dual trading is not; however, since the exchanges employ an auction system, there is no room for arbitrary trade execution.

82. It would appear that insider trading is a difficult concept in commodity exchanges. While there are several cases of traders, buyers or sellers making profits from insider information (see para 56) one would expect that it is always trade-related participants that have access to such information. Dual trading, by contrast, seems to be a cause for concern to regulatory authorities because of its possible impact on price to the benefit of brokers.

3. Mechanisms increasing transparency such as audit trails and reporting requirements

83. The level of transparency of exchange trading is determined not only by the frequent and wide distribution of information on prices but also by transparency regarding the identification of market participants and their activities. Regulators face difficult problems in this latter area.

84. All national regulations require audit trails, i.e., some procedures for tracking each customer order from placement with the financial intermediary through execution. They record factors such as transaction date and time, delivery month, price, volume and open interest and are used to identify mismatched trades and trade floor abuses. However, the required level of detail and the manner in which the audit trail is recorded and made available differ significantly among jurisdictions. Most audit trails are considered confidential for use by exchanges and regulatory authorities. There are also provisions regarding reportable positions, i.e., any open position held or controlled by a trader at the close of business that reaches the quantity fixed by the regulative authorities. These provisions are designed to help identify market participants responsible for price manipulation and are again usually considered confidential information. Required records on aggregated information such as total volume of trading, total quantity of exchanges for physicals, total gross open contracts, and highest and lowest price of offer are usually publicly available. This information helps market participants to assess the degree of liquidity, the extent of non-trade-related business and the prevailing price volatility on a contract.

85. In the United States, the Futures Trading Practices Act 1992 requires contract markets to install enhanced audit trail systems within three years after enactment of the legislation aimed at increasing floor surveillance to help regulators to uncover wrongdoing. The new system includes hand-held machines that each floor broker will be required to use to record all trades, completely and instantaneously. Trading fraud that has frequently occurred because of alterations of hand-written trading cards will be made extremely difficult by this new

system. Hand-held machines are being used experimentally on the CSCE and the Chicago exchanges, with full use expected by the end of 1993.

86. The timing of reporting has become an important issue for institutional investors. "Real time reporting", i.e., information about the price and volume of a trade being made public as soon as it has been concluded, has been practised for all trading on United States markets[66] in order to provide market transparency. On the other hand, institutional investors which, due to the large size of orders typical for their business, provide depth and liquidity to markets often do not wish to disclose information about their transactions within seconds of execution. They argue that with real time reporting their market strategy could easily be identified by other market participants. They would, therefore, feel somewhat reluctant to use commodity exchanges in the United States and prefer trading, for example, under the London system where trading is reported after up to 90 minutes.

87. Only in the United States are there specific reporting requirements concerning large trader positions. Brokerage firms must report the daily futures position of any client that owns or controls a position in any delivery month of a commodity that equals or exceeds the reporting level specified in Commission regulations. The firm must also identify the persons who own or control these reportable positions by name and address. Exchanges provide comparable large trader data to the Commission on a weekly basis for all option markets. This reporting is used to ensure that the CFTC receives adequate information to carry out its market surveillance programmes. These programmes have two objectives; one is to detect and prevent market congestion and price manipulation and to enforce speculative position limits. The other is to gauge overall hedging and speculative uses of the futures markets and other matters of public interest. The CFTC has recently proposed raising reporting levels in 19 different commodities to reduce the volume of reports submitted by firms.[67]

88. A key problem in the area of audit trails and reporting requirements is the difficulty of categorizing market participants. This difficulty significantly weakens the capability of audit trails and reporting to provide sufficient information on the structure of participation on futures and options markets. Open interest is reported daily to the CFTC by the exchanges. These reports include information about the principal business or occupation of any person controlling the trade of each account. On the basis of these reports, the CFTC breaks down the total open interest of individual futures contracts into three categories: large speculator, small speculator, and commercial.[68] Whether a market participant registered as having a

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[66] MATIF must also provide the market with price information in real time. In Japan, price information is disseminated every minute through quotation systems of information vendors.

[67] The commodities concerned include wheat, maize, soyabeans, oats, cotton, soyabean oil, soyabean meal, live cattle, feeder cattle, hogs, sugar, cocoa, coffee, copper, gold, silver bullion, platinum, oil, and unleaded gasoline (Federal Register, Vol.57, No.93, 13 May 1992, p.20403).

[68] There is, however, a potential for definitional confusion. Bankers Trust, for example, would be considered a commercial large trader or hedger in Eurodollar options, but a large

commercial interest in a commodity always trades for trade-related reasons is, however, questionable. In addition, these open positions are only reported as of the end of each trading day: the classification of participants who have taken and given up positions in the course of the same trading day is not reported anywhere. This means that the existing reporting requirements do not adequately provide market transparency with regard to the shares of exchange turnover by users for trade-related reasons and for non-trade-related reasons, respectively. Thus, for example, commodity buyers and sellers have no way of gauging the extent to which trade houses are trading for themselves or for their clients who may be speculators or hedgers, or the involvement of managed funds in exchange trading and this will clearly affect their perceptions of the market.[69]

89. Regulators in the United States seem to be the only ones who have addressed this problem. In the United Kingdom and France, for example, there is no reporting on the importance of market participation by different groups and LME officials are reported as saying that the level of fund activity is confidential information.[70] It seems clear that more work is needed with respect to adequate public reporting on the structure of exchange participation to enhance the confidence of potential users that are buyers and sellers of commodities without infringing on a firm's right to privacy and on ways and means of standardizing these improved reporting requirements among commodity exchanges worldwide.

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speculator in gold or oil options. On the other hand, banks that operate as crude oil or petroleum product swap dealers in the OTC swap market would be considered commercial large traders, or hedgers in the futures markets.

[69] The dilemma that all futures and options exchanges seem to face between increasing transparency and buyer and seller confidence in a market through strengthened reporting requirements and raising liquidity by attracting managed funds may be illustrated by the "managed funds programme" adopted in the United States. The aim of this programme, for which the CFTC has recently taken the first steps, is to abolish regulatory constraints that have caused commodity pool money to move out of United States markets. The CFTC has, for example, in coordination with other regulators, developed a simplified disclosure document format to be used by operators of commodity pools. This change enables pool operators to provide a simplified disclosure to investors and to add more detailed data upon request only. The CFTC also issued, in January 1992, a proposed regulation to exempt commodity pool operators from most of the disclosure, reporting and record-keeping requirements for pools offered or sold to 'qualified eligible participants' - such as banks, pensions funds, insurance companies, and high net worth individuals - in private offerings. A further helpful step for managed futures funds was that the CFTC has allowed some exchanges (CME, CBOT, COMEX) to use average pricing for big orders that have been executed at multiple prices. Customers must, however, agree to participate in the average price system. Some market participants have, nevertheless, expressed concern about an apparent shift in CFTC regulation away from customer protection in favour of brokers and other industry professionals.

[70] See Metal Bulletin, 26 October 1992.

D. Futures and options market efficiency

90. Futures and options market efficiency is addressed by regulations designed to ensure the proper functioning of the exchanges. These regulations concern, most importantly, the design of contracts traded on the exchanges and market disruption rules such as position limits and price halts.

1. The design of futures and options contracts

91. The control regulators exercise on the development of new contracts is a crucial regulatory issue because it determines whether what is traded on an exchange is actually tailored to serve trade-related rather than non-trade-related interests. In the United States, the CFTC commissions studies to explore the relevance of a proposed contract for commodity buyers and sellers. The economic purpose test which regulators in the United States (as well as those in France, Japan, and Malaysia) apply to a contract before it can be introduced on an exchange basically consists in showing that the contract can reasonably be expected to serve a hedging and price basing function on more than an occasional basis and that possibilities for price distortion are minimized.[71] United States regulators also look at the industry structure of the commodity to see whether it is oligopolistic or whether it can be expected that the contract will be used by a significant number of different trade-related participants on both sides of the market. In the United Kingdom, by contrast, there are no general requirements in the applicable legislation regarding specific aspects of contract design (contract design and delivery procedures are established by the relevant exchange). The only requirement is that an exchange must limit dealings to trading for which there is a proper market. The fact that a number of contracts introduced on London Fox did not get off the ground seems to have been caused partly by an oligopolistic industry structure for the underlying commodity.[72] This suggests that a properly designed economic contract evaluation procedure is a very useful regulatory requirement.

2. Market disruption and surveillance programmes

92. Market disruption and surveillance programmes comprise a wide array of measures. Recently the most discussed aspect among them has concerned the speculative position limits that exist on most of the major commodity exchanges. Speculative position limits are meant to prevent price manipulations, such as cornering and squeezing the market, as well as excess

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[71] For example, in Guideline No.1, as a condition of initial and continuing designation as a contract market in a commodity, exchanges must provide evidence that significant contract terms conform with the underlying cash market - including in terms of possibilities for physical delivery, and discounts and premiums for certain grades/delivery locations. "The matter of which group of commercial interests are most favored by a particular set of contract specifications or whether the hedging use of a contract is somehow maximized is not a regulatory issue or part of the Commission's review", CFTC, Division of Economic Analysis, "An analysis of the delivery-point provisions of the Chicago Board of Trade's maize, wheat and soya bean futures contracts", in CFTC, op.cit., September 1991, p. 60.

[72] This seems to be the case, for example, for the rubber and rice contracts.

volatility.[73] Exchanges subject to national regulations which impose such limits have been advocating their abolition. Officials of those exchanges argue that position limits have driven managed funds to foreign futures markets where no such constraints exist. Managed funds themselves are especially interested in seeing these constraints removed in agricultural contracts because futures markets for agricultural commodities tend to be less liquid than other markets. The resulting wider bid-ask spreads appear to allow for substantial returns. Those in favour of speculative position limits argue that these limits are a means of limiting speculative business and thus price manipulation. It would appear, however, that, historically, hedgers - not speculators - have been responsible for big squeezes and other market manipulations (see para. 59). Advocates of speculative position limits also argue that once these limits are abolished brokers would ask for higher commission fees for servicing small orders typical of many hedgers. However, speculative limits are only one part of the authorities' surveillance mechanism and whether there are low speculative limits or proper reporting requirements to identify market participation of different groups of users and the need for intervention would appear to be largely interchangeable.

93. In the United States, the CFTC has recently received proposals to lift speculative position limits on an array of agricultural contracts for commodities such as wheat, maize, soyabeans, and cotton. The proposals include suggestions to raise the combined futures and options limits in deferred months (including single months and all months combined), leaving limits on spot and nearby months unchanged. For most of the proposed changes, the new speculative limits would not exceed 10 per cent of the combined open interest of futures and options for each contract. In addition, in September 1992 the CFTC approved the proposal put forward by the COMEX to lift position limits on the exchange's gold and silver futures and options contracts.[74] The authorization states that traders whose positions exceed certain limits must answer questions about their trading strategy and the size and nature of their position and can be ordered by the COMEX board to reduce the position held. In theory, there is therefore no ceiling on position limits.

94. There are no position limits on exchanges in the United Kingdom. In France, position limits for a company are related to its initial margin payments[75] and the rule that no customer can hold more than 20 per cent of the total open position on any maturity of any

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[73] Speculative position limits on futures and their related options contracts are usually unified for two reasons. Firstly, a unified system more appropriately reflects the economic reality of a position in its totality because price movements in the two markets are highly related. Positions in one market may have an immediate impact on pricing on the other market because of the wide variety of spread and arbitrage transactions between the two markets. Secondly, a unified system may allow more flexibility with respect to the composition of a trader's position.

[74] Metal Bulletin, 10 September 1992.

[75] The aggregate initial margins paid by a firm must not exceed 20 per cent of its net capital, the aggregate initial margins paid by one customer to a firm must not exceed 100 per cent of the firm's net capital, and the aggregate initial margin paid by all customers to a firm must not exceed 200 per cent of the firm's net capital.

contract. Japanese exchanges normally do not impose position limits on their members but the Ministry of Finance can impose position limits for securities companies in order to maintain their financial soundness. SIMEX has also established limits on the positions owned or controlled by any person or persons acting in concert with respect to any commodity.

95. Price limits are another type of market disruption measure usually determined by each exchange individually and varying from contract to contract. Price limits provide for cessation of trading for specified time periods whenever the price of a contract moves a certain number of points. They are basically trigger mechanisms to start investigating whether a sizeable and abrupt price movement that has occurred is a legitimate reaction to a sudden change in markets fundamentals or an indication of the presence of manipulation. In the United States, each exchange determines price limits but also has rules permitting the limits to increase should there be successive days of trading at the limit. In the United Kingdom, trading rules also vary between exchanges. Some of them provide for the temporary cessation of trading on a price move of a specified size after which trading is resumed generally without limit, i.e., there are no daily price limits on traded contracts. Exchange rules also provide for emergency measures including cessation of trading with a view to maintaining an orderly conduct of business. In France, MATIF determines the limits for each contract price. If the price limit is reached, trading is stopped. If trading is stopped a second time on the same day, the clearing house calls complementary margins. On SIMEX, the Board has set daily price limits which are based on the settlement price on the previous business day. Japanese exchanges can, in addition to setting price limits, implement emergency measures such as trading halts or increased margining, depending on the judgement of the market situation by the market regulator and the exchange itself.

96. Surveillance is executed by regulators with a substantial degree of discretion. Regulators can but do not have to act when they suspect someone is trying to squeeze or corner the market. In the United States, market manipulation can occur either through a user's illegal exceeding of position limits by, for example, the use of dummies, or through the illegal use of hedge exemptions.[76] If regulators suspect manipulation they can examine the books of brokers to determine the person finally responsible for the deal and thus uncover dummies or they can revoke hedging exemptions and thus force the client to liquidate his position.[77] In early 1993 CFTC proposed rule amendments designed to establish new procedures for emergency actions taken by exchanges. The objective of the amendments is to create a more formal procedure for Commission oversight of an exchange's emergency rule. This means that the level of discretion in market surveillance would be reduced by the CFTC's giving clearer directives. More specifically, under the amendments the CFTC will require an

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[76] In the United States bona fide hedge transactions are exempted from speculative limits. To obtain that exemption hedgers are required to file an exemption application with the appropriate exchange or, for certain agricultural futures markets, file weekly cash position reports with the CFTC. Hedgers generally are permitted to have futures and options positions up to the size of their cash market exposure, although their spot month futures positions may be constrained below that level to avoid the potential for market manipulation or congestion.

[77] The former procedure was used in the Bunker Hunt case while the latter was used in the Ferruzzi case.

exchange to make all practicable efforts to provide prior notice of an emergency action. Moreover, part of the information that an exchange must give the CFTC concerns documentation of all positions in the exchange held by governing board members personally or through an affiliated firm. This rule would reduce the possibility of emergency actions being taken in bad faith by the exchange officials.[78] LME officials have three options to tackle suspected manipulation: they can allow contracts reaching maturity to be rolled over without penalty, limit trading to liquidation sales, and, most importantly, place an upper limit on the daily backwardation.[79] The example of the LME imposing a backwardation limit on copper trade in December 1991 when backwardation had reached 130 pounds per MT while it did not act during the zinc squeeze in April 1991 when backwardation had reached US$ 217 per tonne points to the discretionary power of the LME in this respect.

97. Since exchanges are much more directly involved in day-to-day trading business and can act much more promptly on perceived wrongdoing, market surveillance should probably be exercised as much as possible by them rather than by the regulatory authorities. To be effective, surveillance exercised by exchanges should, however, be guided by clear rule-making by the regulatory authorities. The measures recently taken in the United States seem to be a step in the right direction in this respect. However, to increase the confidence of buyers and sellers in futures markets in general, some clearer directives are needed in this area worldwide.

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[78] See Federal Register, vol. 58, no.22, pp. 7056-7062, 4 February 1993, for details.

[79] If backwardation is up to, for example, £100 per MT the LME can set a backwardation limit of, for example, £25 per MT. This means that those who have short positions that have reached maturity and are unable to make physical delivery have to pay a penalty of £25 a day until they can settle their position. Those with long positions who seek delivery are compensated by the same amount until they can take delivery.

Annex I
Table 1

Price formation mechanisms for primary commodities ranked by share in world commodity exports

Commodity	Share in total world primary commodity exports including gold and fuels in 1990[1] [percent]	Price formation mechanisms.	Futures and options markets	Exchange prices used as reference for physical trade
Fuels	40.75 of which: crude petroleum 21.72	Mainly producer-price-based long-term contracts between oil producers and the international oil companies until the late 1970s. With growing market shares of both independent producers and those opposed to OPEC policies, this system was largely replaced with open market trading. Brent Oil forward contracts used to be traded as on a market place, sometimes involving more than 40 market participants in the purchasing and selling of one contract. These contracts were often used as a reference price for physical transactions. Due to performance problems this market lost importance in 1991/92. The bulk of Brent Oil is now traded on the IPE. Together with the NYMEX-traded WPI crude oil futures contract, the IPE-traded Brent Oil futures contract now provides the reference price at which the bulk of world crude oil trade is executed.	Brent oil forward market NYMEX (United States) IPE (UK) Singapore Mercantile Exchange	international international international
Cereals	5.05 (8.52) of which: - wheat 1.96 (3.30) - rice 0.45 (0.76)	Wheat: reference prices based on contracts traded on CBOT. Rice: direct price negotiations. An attempt to introduce a futures contracts on London Fox in 1991 failed. In 1992, a domestically-oriented contract was launched at the Mid America Commodity Exchange.	Wheat: mainly CBOT; also traded on MidAmerica Commodity Exchange, Kansas City Board of Trade, Minneapolis Exchange, Winnipeg Exchange, MATIF, London Fox. Maize: CBOT, Japan Rice: MidAmerica Commodity Exchange	CBOT: international London Fox and MATIF: EC internal trade
Fisheries	4.01 (6.77)	Direct negotiations, often on the basis of price information from regionally based fish-trade information systems. The Minneapolis Grain Exchange is planning to introduce shrimp futures and options trading in 1993.	No	
Meat and meat preparations	3.80 (6.41)	Mostly direct negotiations. Markets are highly segmented. Various domestically oriented meat contracts are traded on exchanges in the United States, the United Kingdom and Brazil.	Oriented at domestic markets.	

[1] The figures in brackets show share of world primary commodity exports excluding fuels.

Oils & oilseeds	3.44 (5.80) of which: soyabeans 0.66 (1.12) palm oil 0.26 (0.44) soyabean oil 0.20 (0.33)	Soyabeans: reference prices based on contracts traded on CBOT. Soyabean oil: reference prices based on contracts traded on CBOT. Since this is the most liquid contract for any vegetable oil, it has also been used as a reference price for other vegetable oils. Palm oil: reference prices based on contracts traded on the KLCE.	Soyabeans: mainly CBOT; also traded in Hong Kong, London Fox, Japan, and on MidAmerica Commodity Exchange. Soyabean oil: CBOT Palm oil: KLCE Coconut oil: Manila	international international international domestic
Wood	3.18 (5.37)	Direct negotiations. A lumber contract is traded on the Chicago Mercantile Exchange but it is only used for the domestic United States market.	CME	domestic
Fruits and nuts	2.62 (4.41) of which: orange juice concentrate 0.22 (0.36)	Direct negotiations and auctions. Highly segmented markets. Orange juice concentrate: Reference prices based on contracts traded on NYCE.	NYCE	United States and Latin America
Bauxite/ alumina/ aluminium	2.41 (3.07) of which: - bauxite 0.11 (0.19) - alumina 0.62 (1.04) - aluminium 1.68 (2.84)	Most of world trade in bauxite and alumina is intra-firm - there is no visible spot or terminal market. The IBA recommends bauxite and alumina prices based on the aluminium metal price quoted in American Metal Market. Both of these commodities are generally traded under long-term contracts; independent aluminium producers tend to buy alumina on the basis of LME quotations. Aluminium prices used to be determined on the basis of the prices set by Alcan, the world's largest producer. Prior to 1978, there was no visible spot or terminal market for aluminium. Prices published by American Metal Market (on the basis of producers', merchants' and consumers' price indications) were the only indicators of market conditions. In late 1978, trading in aluminium metal was begun on the LME. During the first half of the 1980s the gap between this listed price and LME quotations widened but Alcan's price was nevertheless the reference price for large transactions as between Japanese purchasers and Indonesian and Venezuelan aluminium producers; in addition, the Alcan price was used for the bauxite trade since the International Bauxite Association recommended a minimum price expressed as a percentage of the listed price; some alumina contracts, e.g. between Japan and Indonesia, were tied to the Alcan price as well. However, in September 1984 the Metal Bulletin started publishing a 3-month moving average of LME prices as a reference price instead of that of Alcan. The LME's role in aluminium pricing became dominant. The high grade primary aluminium futures contracts now act as the main reference price for the trade in aluminium, alumina and to some extent bauxite.	Bauxite and alumina: use of LME aluminium contract prices as reference. Aluminium: - primary aluminium on LME - secondary aluminium on LME	 international international
Vegetables	2.29 (3.86)	Mostly direct negotiations and auctions. Highly segmented market. There are domestic potato futures contracts in several European markets and in white and red bean futures in Japan.	Potatoes in Europe Beans in Japan.	domestic
Alcoholic beverages	2.15 (3.63)	Direct negotiations.	No	
Tobacco	1.91 (3.22) of which: tobacco leaves 0.54 (0.91)	Tobacco leaves: prices are determined through auctions.	No	

Copper	1.65 (2.79) of which: - copper ore 0.42 (0.71) - unrefined copper 0.16 (0.27) - refined copper 1.07 (1.81)	Producer prices until the mid-1960s when Zambia, followed by Chile and most of the other countries, switched to LME quotations. Peru and Mexico use the COMEX-based price for their exports to the United States. Zambia adds a premium to LME-based prices. Japanese trading houses and processors have been trading on the basis of LME quotations since 1985. In general, about 70 per cent of newly mined copper outside the United States and the Far East is priced on the basis of LME quotations. Alternatives: COMEX-based prices and United States-producer prices - the COMEX price is mainly used for trade within the United States and some United States imports; this and the fact that arbitrage between COMEX and LME tends to equalize price levels in the two markets means that there is almost a single price system for copper internationally.	LME COMEX	international mainly domestic
Sugar	1.50 (2.53)	Internationally recognized standard contracts for both raw sugar (CSCE) and white sugar (MATIF and London Fox). The International Sugar Organization also quotes an average price of New York and London raw sugar prices. Since 1974 increasingly bilateral agreements, especially used by Cuba and between the EC countries and the ACP sugar exporters. Sugar trade executed at these preferential prices accounted for 23 per cent of total world sugar trade in 1989 and 12 per cent in 1992.	Raw sugar: - CSCE (No. 11) - CSCE (No. 14) - London Fox (little importance) - Japan - Manila - Hong Kong (discontinued in 1992) White sugar: - London Fox (declining importance) - MATIF (declining importance) - Japan	 international domestic and quota imports mainly domestic domestic domestic international international domestic
Gold	1.13 (1.91)	Reference prices based on contracts traded on COMEX together with the London bullion price.	COMEX (most important contracts) Tokyo Sao Paulo Contracts are also traded in Singapore, Hong Kong, on the CBOT, and the MidAmerica Commodity Exchange	international domestic domestic
Live animals	0.97 (1.63)	Outside of the USA, price determination is mainly though auctions and direct negotiations. In the United States, futures market contracts used for reference prices for live cattle, live hogs, and broiler chicken. In Argentine, Australia and Brazil live cattle futures contracts. In the Netherlands, contracts for live hogs and piglets, and in London, for pigs and lamb.	Domestic market orientation	domestic
Coffee	0.96 (1.63) of which: coffee, green or roasted 0.85 (1.44)	Prices used in international trade are mainly established by reference to futures contracts traded on CSCE (arabica) or London Fox (robusta).	Arabica: - CSCE standard contract - CSCE eurodifferential contract - CSCE Brazil differential contract - Sao Paulo Robusta: - London Fox - MATIF - São Paulo	 international international

Iron ore	0.95 (1.60)	Producer prices. Major price determination is through annual contracts conducted between major producers with Western Europe and, generally afterwards, with Japan. Steel reference prices are published by Japan Metal Bulletin (Japanese exports) and Metal Bulletin (European exports).	No	
Cotton	0.93 (1.57)	"Cotton Outlook" publishes the so-called "Cotlook-A index" (the former Liverpool-A index) which consists of a basket of prices offered by traders of physical cotton for different qualities and delivery ports expressed as an average of the preceding week's and month's quotations. This index is used for spot trading whereas the quotations of contracts on the New York Cotton Exchange (NYCE) are used as an indicator of the general future tendency. Although the NYCE is largely used by United States companies for domestic trade and speculators, it has some importance for world physical trade due to the high market share and good quality of cotton grown in the United States. Price quotations for the cotton contract traded on the NYCE and those for cotton traded on the world market have sometimes diverged significantly. The NYCE, therefore, introduced a cash-settled cotton contract based on the Cotlook-A index in October 1992.	NYCE standard contracts NYCE index contract Sao Paulo Japan	international international domestic domestic
Hides and skins	0.73 (1.24)	Direct negotiations	No	
Nickel	0.61 (1.03)	Until the early 1970s, INCO dominated the world market for nickel with the consequence that the producer price set by INCO was used as a reference in the world nickel trade. Steadily eroding market shares, i.e., INCO became incapable of maintaining a fixed price through supply reductions, led to INCO's abandoning the posting of its price. It adopted the strategy of other large producers negotiating long-term contracts with the large consumers. Since 1989, INCO has been using LME prices.	LME	international
Wool	0.55 (0.93)	There are futures contracts in the two main wool-producing and exporting countries, Australia and New Zealand. Elsewhere, mainly auctions are used.	Sydney Futures Exchange Ltd. New Zealand Futures & Options Exchange	international international
Rubber	0.54 (0.91)	While the importance of direct negotiations between producers and manufacturers has increased, reference prices still play a major role. These reference prices are mainly based on the price quotations of the Rubber Association of Singapore (RAS) which organizes trade in three types of futures contracts. RAS used to be a forward market but moved to futures trading in 1992. There is active arbitrage between the Kobe and Singapore exchanges.	Singapore Kuala Lumpur (dormant contract) Kobe and Tokyo	international domestic

Zinc	0.47 (0.78) of which: - zinc ore 0.06 (0.10) - zinc unwrought 0.36 (0.60) - zinc metal 0.05 (0.08)	Until 1964, the LME price was used as a reference. With increasing prices and European smelters fearing substitution by aluminium, a European Producers' Price (EPP - a price established by Metal Bulletin using a worldwide range of official producer prices as a basis for all European, and in fact worldwide, transactions) was adopted. In 1974, with declining demand and growing competition, integrated producers started to sell below the EPP. This led to an erosion of the EPP - pricing formula and a mix between EPP and LME prices was used. LME pricing was not fully adopted because the standard grade used was too low, despite revisions in 1984 and 1986. In 1988, the LME adopted a high-grade contract and European smelters decided to replace their producer prices by an LME-pricing basis for sales and purchases.	LME	international
Tea	0.31 (0.52)	Public auctions but increasing proportion is sold directly by producers either 'ex garden' or by forward contract. London auction prices serve as reference prices.	No	
Silver	0.25 (0.42)	Reference prices based on contracts traded on COMEX.	COMEX Contracts are also traded on the MidAmerica Commodity Exchange, the Toronto Exchange, and the Tokyo Commodity Exchange.	international
Cocoa	0.24 (0.40)	World market price reference based on prices quoted in futures markets (CSCE, London Fox) and ICCO's daily and moving average prices which are based on these terminal market prices.	CSCE (mainly used in relation to the North American market) London Fox (mainly used in relation to the European market)	international international
Lead	0.19 (0.33)	LME is the reference price for all trade outside the United States. In the United States, producer prices are used.	LME	international
Sulphur	0.16 (0.26)	Direct negotiations.	No	
Tin	0.16 (0.27)	Most business is done through direct negotiations between producers and consumers although there is an LME futures contract. A producer-price system for the negotiations between sellers and buyers does not exist; terminal markets play an important role in tin price determination, LME for futures and KLCE for physical trade, respectively.	LME	international
Sum: Mio US$ 761312.24 (391610.54)	83.91 per cent (72.85 per cent)			

Source: UNCTAD secretariat.
Note: Total world primary commodity exports including gold and fuels cover SITC sections 0, 1, 2 (less groups 233, 244, 266, 267), 4, divisions 32, 33, 34, 68, group 971, and item 52256. Metals of SITC - division 68 (including non-ferrous base metals and manufactures of copper, nickel, lead and zinc) account for the bulk of the 16 per cent of total world commodity exports that could not be attributed to specific commodities.

Annex II

The institutional set-up of the regulation of commodity futures and options markets in various countries

	Governing laws	Regulator	Type of body	Functions	Organization of clearing houses
United States	Commodity Exchange Act (1985) and Futures Trading Practices Act (1992)	Commodity Futures Trading Commission (CFTC)	Government	Regulates all futures and some options: - approves contracts - provideś market and trading surveillance - exerts disciplinary powers as a regulator of last resort - reviews exchange rules and oversees self-regulatory organizations and the auditing of US futures industry firms.	Most futures exchanges in the United States are cleared through clearing houses that exist parallel to the exchanges. The COMEX Clearing Association, the Coffee, Sugar Cocoa Clearing Corporation, and the Board of Trade Clearing Corporation are all incorporated independently from the respective exchanges. They are composed of the clearing members of the exchanges who guarantee, both individually and collectively, all trades executed on their exchange. On NYMEX, the clearing house is part of the exchange in the form of a separate clearing department which supervises the clearing members who guarantee trades on NYMEX. A Guaranty Fund whose capital is composed of contributions from the clearing members bridges the gap should a clearing member fail.
		National Futures Association (NFA)	Self-regulatory organization	Regulates non-exchange memberships, trading advisors, pool operators.	
		Exchange	Self-regulatory organization	Sets trading rules, provides trading surveillance, and exerts disciplinary powers.	
United Kingdom	Financial Services Act (1986)	Securities and Investment Board (SIB)	Government	Regulates securities and futures markets (e.g. authorizes exchanges and market participants).	Clearing services are provided by a separate corporate entity rather than being integrated within an exchange. All UK exchanges (including IPE, LME and London Fox) are guaranteed by the London Clearing House Ltd (LCH), a division of the International Commodities Clearing House Ltd which in addition guarantees some foreign futures exchanges. The LCH is an independent organization, owned by six of London's largest clearing banks who guarantee a total of £ 200 million to the clearing house.
		Securities and Futures Authority (SFA)	Self-regulatory organization	Regulates futures, options and securities markets.	
		Exchange	Self-regulatory organization	Exerts all major regulatory powers focusing on controlling the parties to financial instruments and the business conduct of such parties.	
France	Law on futures markets (1885) Law on foundation of MATIF (1985)	Commission des Operations de Bourse (COB)	Government	Regulates all markets.	Contracts traded on the commodities sector of MATIF are cleared by the Banque Centrale de Compensation which is a wholly-owned subsidiary of MATIF.
		Conseil du Marche a Terme (CMT)	Self-regulatory organization	Regulates futures and options: - product approval - disciplinary powers	

Japan	Securities and exchange law	Ministry of Agriculture, Forestry and Fisheries Ministry of International Trade and Industry	Government Government	Regulates grain cash and futures markets. Regulates metals, oil, and rubber markets.	No independent clearing houses exist. Each exchange has its own clearing facility.
Brazil	Bylaws of the Commodities and Futures Exchange (1991)	Commodities and Futures Exchange	Self-regulatory organization	Regulates all transactions on the exchange.	The clearing house is a department of the exchange.
Malaysia	Commodities Trading Act (1985)	Commodities Trading Commission (CTC) Exchanges and clearing houses	Government Self-regulatory organizations	Exclusive jurisdiction on all matters affecting commodity futures trading. Protect interests of exchange and clearing house members.	On the Kuala Lumpur Commodity Exchange (KLCE), clearing house guarantees are provided partly by exchange members, partly by others. The exchange is cleared by the Malaysian Futures Clearing Corporation Sdn Bhd. The KLCE and its clearing members own 70 per cent of this company, with the balance being held by a consortium of 19 Malaysian banks.
Singapore	Futures Trading Act (1986) Commodity Futures Act (1992)	Monetary Authority of Singapore Singapore Trade Development Board	Government Government	Regulates SIMEX and financial institutions. Regulates the Rubber Association of Singapore Commodity Exchange.	On both SIMEX and the RASCE, the clearing house is a special department of the exchange with its corporate clearing members being the shareholders of the exchange.

ANNEX III

Technical conditions affecting participation and usage by buyers and sellers of over-the-counter commodity price risk management instruments

The participation and usage by buyers and sellers of commodities of over-the-counter (OTC) price risk management instruments such as commodity swaps, bonds and loans, and tailor-made options are influenced in particular by user-specific factors.[2] However, there are also a number of technical conditions relating to the functioning of the OTC markets which may hamper participation. In particular these risk management instruments are only available for a limited number of commodities and, for the time being, the markets are not very transparent. It is also useful to consider the consequences of the use of OTC instruments for price formation, a factor which should influence users' participation but does not seem to do so. Regulatory measures that may affect the conditions for participation and usage by buyers and sellers of commodities of OTC risk management instruments are discussed in the final section of this annex.

A. Availability of instruments

The OTC market for swaps options and combinations of these instruments is a principal-to-principal market with one principal (in general a bank or a trading company acting as an intermediary) offering the other (a buyer or a seller of commodities) an instrument to meet his specific requirements, as long as conditions are right. In theory, there are no limits to the range and availability of instruments. In practice, though, there are two requirements:

- the availability of reliable reference prices, indicative for the underlying physical market and difficult to manipulate;
- a way for the principal offering the instrument to lay off his risks, through physical transactions, through futures exchanges, or through offsetting risk management deals.

Therefore, OTC risk management instruments are available mainly for the same commodities that are traded on futures exchanges, some similar commodities, and some others with reliable published reference prices and a high volume of trade (e.g. woodpulp). Even then, the instruments available at any given time may depend on the intermediary's risk portfolio, as intermediaries are not willing to cumulate their risks - they may be willing to take a risk on one swap for 100 million barrels of oil, but are not interested in offering another swap for that amount until they have managed to lay off, back-to-back, the risks of this first swap. It is indicative that in the most liquid swap market, that for crude oil, there

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[2] Only risk management instruments traded independently of physical trade transactions and outside of organized futures and options exchanges are discussed in this annex. Physical trade contracts with implicit risk management clauses, such as executable orders and forward contracts, are not discussed.

are some 15-20 intermediaries who are willing to give either a bid or an ask price, depending on the moment, but only 4-5 willing to give a quote both ways.

Commodity bonds and loans are a somewhat more complicated case. Only some are offered publicly, most are probably placed privately and only larger companies are likely to be suitable for such private placements.[3] It has been argued that commodity price-linked bonds and loans are often bought because investors are looking for portfolio diversification. A commodity bond or loan which offers investors the possibility to take a certain price exposure that is otherwise not available, in other words, for commodities or durations not available on organized exchanges, may therefore prove attractive.[4]

B. Competitiveness of OTC markets

As OTC markets are not very competitive, commission costs can be high. Also, OTC markets are not transparent: intermediaries offering risk management instruments will not quote prices to just anyone and will quote different prices to different potential clients (this reflects, in part, different counterpart, including sovereign, risks). Valuing an OTC risk management instrument can be highly complicated, especially for the growing number of contracts with embedded option clauses. Potential clients are limited in their ability to find out which is a "fair" price for the deal they want, because they often prefer details on their price targets or investment plans to remain secret. Therefore, they are forced to trust the intermediary with whom they are dealing to give them a fair deal. Developing country companies will have problems in building up such a relation of trust with an intermediary.

For a number of commodities (such as crude oil and oil products, and some metals), brokers who are able to give competitive quotes have become active in the swap market. For instance, while an individual bank's bid-ask spread may be as high as US$ 1/barrel for a five-year fixed-price swap, the "market" bid-ask spread may be as low as 5-10 cents/barrel.[5]

It is difficult for any OTC market participant to assess the credit risk involved in an OTC deal. Hence, knowing one's counterparty is essential; many market participants have

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[3] It is believed that the approximate amount of US$1 billion in oil-price-indexed bonds and loans that have been placed through public offerings are only a fraction of the total volume of such bonds and loans - the majority being placed privately or through semi-private placements. Banks prefer to keep their lists of clients secret, and oil companies wish to be discreet about their funding. See Intercapital Brokers Ltd., The Complete Guide to Oil Price Swaps, London, December 1990.

[4] See C.W. Smithson & D.H. Chew, "The uses of hybrid debt in managing corporate risk", Journal of Applied Corporate Finance, Continental Bank, 1992. This may be especially relevant for commodity bonds and loans with option clauses - obtaining a long-term option by using organized options exchanges is virtually impossible because rolling over options is prohibitively expensive.

[5] According to London bank and brokerage sources.

come to rely on the assessment of rating agencies regarding the reliability of their counterparties. However, there is a need to improve awareness and understanding of the risks involved as well as of the assumptions made in determining risk exposure. Market participants could also test the potential effects of their own risk exposure by simulating a worst-case scenario and establishing emergency plans.

C. The consequences of the use of OTC instruments for price formation

The existence of OTC markets can influence prices; instead of prices being determined by current supply and demand, they will be determined by supply and demand on the OTC market. The balance of supply and demand can be shifted in this process. In particular, the availability of OTC instruments may stimulate producers and stock owners to put a part of their future or potential offer on the market now, while potential consumers do not react by shifting a part of their future demand forward. This would depress prices, possibly more than is likely when a similar development takes place on the futures markets, because speculators, who in the futures markets can take opposite positions to hedgers, are largely absent on the OTC markets.

OTC risk management markets are not yet very active, except for fuels and gold. The effects of forward hedging on the gold market have been studied to some extent. According to many gold industry representatives, the existence of OTC long-term risk management instruments, in particular gold loans, has had clear effects on gold prices. Gold loans were introduced by Australian producers in 1982 as a source of mine financing. Since 1987, United States and Canadian mines have increasingly used this method and somewhat later South African producers also started selling gold far forward.[6] By mid-1991, about 800 tonnes of gold were sold forward, some for as far as five years out. Use of the loans was mainly to fund mine developments and expansion, although some have been used to refinance corporate debts. This type of hedging is mainly of interest to producers; consequently, a part of future production is put on the paper market now without an increase in paper demand, and prices are put under pressure. According to one mining company, for every five tonnes of gold placed on the forward market, gold prices drop by US$1.[7] Others say that by selling forward they can receive the best price. One analyst formulated it as follows in a gold producers' conference: "This establishes the catch-22 situation of which we are all so acutely aware today. The more the mines hedge, the more their cumulative activity caps the gold price and therefore the more they need to protect their profitability. Hedging has become self-fulfilling."[8]

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[6] Metal Bulletin, 14 January 1991.

[7] Financial Times, 25 July 1991

[8] Jessica Jacks, "Giltier thoughts", Papers, articles and speeches by RTZ staff, Number 7, 1991. This development is further strengthened by the growing tendency of Central Banks to sell call options on gold. Although these options are out-of-the-money (sold at prices much higher than current prices), they give rise to hedging activities (that is, the sale of gold

D. Regulation of OTC markets

There are three important regulatory issues with respect to commodity price hedging through the OTC market: tax treatment; market transparency; and the evaluation of counterpart risks.

The tax status of OTC instruments is, in most countries, not very clear. In many instances, tax authorities make case-by-case decisions as to which transactions are considered as legitimate hedging and which as speculation. It is likely that this incertitude will continue to hamper the use of OTC instruments for some time to come.

Market transparency has hardly been addressed by regulatory authorities so far. The main reason for this is that those using OTC markets are considered to be large and well-informed enough not to need any protection. There is no regulatory supervision on market transactions (efforts to manipulate the market are therefore not illegal) nor is there any official reporting on prices, volume of transactions, etc.

The main area that has started to be addressed by regulation is that of counterpart risks. In OTC markets no clearing house stands between the buyer and seller and guarantees the contracts; rather contracts are traded principal to principal. Also, disclosure requirements with respect to notional principal amount, credit risk and market risk components, loss in case of counterpart failure, and collateral are minimal. (OTC risk management instruments are so-called off-balance-sheet instruments: they are not reported in the balances of banks, trade houses, producing or consuming companies.) The risks implicit in OTC deals are to a large extent invisible, moreover, the market value of OTC positions can shift extremely quickly due to the high leverage embodied in these positions. Considering the size that the OTC market has reached, the default of a few big participants could trigger a domino-like collapse of banks, securities houses and corporations linked by a grid of interconnected payment obligations.[9] This naturally worries regulators and market participants alike, and they are looking at three kinds of solutions.

The first solution lies in a reinforcement and widespread harmonization of accounting rules and disclosure requirements to increase transparency on OTC markets and hence reduce

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futures) by those who have bought them. The managing director of the Federal Reserve system in the United States estimated in mid-1992 that the sale of call options by Central Banks had resulted in the sale of 190 to 220 tonnes of gold in the market, further depressing prices.

[9] The financial collapses of Drexel Burnham Lambert Inc. and the Bank of New England which temporarily shook the OTC markets are often quoted as examples in this respect. Although the troubles of the Bank of New England did not, after all, do any lasting injury to the OTC markets the bank was able to unwind its OTC positions only with great difficulty in 1990 and later failed.

the risks involved. This would require strengthening units in participating companies which control and monitor risks (e.g. back offices).[10]

The second solution is purely practical, and involves establishing a formal system of netting, i.e., a system that allows an intermediary to reconcile all of its transactions with a defaulted counterparty and make a final net payment.[11] Netting is so far a legally recognized practice only in the United States.[12] An inherent danger with badly constructed netting systems is that they can reinforce rather than diminish the concentration of risk.

The third solution involves creating a clearing house system. Many argue that this is unavoidable as credit considerations will inescapably hinder the growth of the market beyond a certain point.[13] A first phase of such a clearing house could be the inclusion of a loss-sharing system in a multilateral netting system. However, as in the case of clearing houses per se, this could create a moral hazard problem, because it might stimulate participants to incur risks, confident that in the case of a default at least part of the losses would be borne by other participants.

In the United States, the degree to which the CFCT should regulate the OTC market is the subject of much discussion. On the one hand, those using OTC instruments prefer to continue using them without much regulation, because regulation would raise the costs of these instruments. On the other hand, the exchanges, and in particular CBOT and CME, argue that they are suffering unfair competition from those offering OTC risk management instruments and would prefer that all concerned be treated equally: either through the inclusion of the OTC market in the regulatory interventions of the CFTC, or the exclusion of the exchanges from CFTC oversight when they engage in OTC-linked activities. They pointed to the possibility of a contract created by an exchange and proposed to the CFTC for approval. After the proposal was offered for public comment and while it was waiting for final approval by the Commission, it could be duplicated by a brokerage house and sold without regulation, including anti-fraud rules, prohibition of manipulation, financial integrity safegaurds, and audit trail requirements.

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[10] A number of market participants argue that many of the latest derivatives have been designed using advanced computer programmes which have made them so difficult that neither regulators nor chief executive officers supervising traders can fully understand them. If this is the case, there is a clear need for strengthening company-level control mechanisms.

[11] To give an example of the importance of a netting system: without such a system, a bank which has gone into a swap with a consumer which thereafter went bankrupt will find itself obliged, during the lifetime of the swap, to pay the liquidator of the consumer during periods when prices are high, while no payments will be made by the consumer's liquidator to the bank during periods that prices are low.

[12] See "Regulatory storm clouds gather", Futures and Options World, May 1992, p.42.

[13] See, for instance, K.M. Raisler, "Swaps clearinghouse: The next frontier", and E. Sheridan, "The growing derivatives market: competition is good for business", Futures Industry, November/December 1992.

This issue has been partly resolved in the latest re authorization of CFTC regulation, the Futures Trading Practices Act, signed in October 1992 and valid for only two years, after which a study commissioned by the Congress should provide suggestions for new regulatory decisions.[14] The Act allows the CFTC to permit exchanges to trade OTC-like instruments (hybrids) on the exchange as unregulated futures contracts under a few specific conditions. Contracts would need to have more of the characteristics of a security than those of futures or options contracts, and they should be traded by creditworthy investors subject to regulation by other agencies. The first point is rather a complicated one; in a later proposal, the CFTC proposed introducing a technical test that "compares a measure of the commodity price exposure [note that the CFTC considers currency and interest rate futures also as commodities] associated with the commodity-dependent component to the value of the commodity-independent component. Under the test, hybrid instruments would be exempt from Commission regulation if, at the time of pricing, the estimated commodity price exposure is less than the present value of the commodity-independent payments".[15] Some exchanges doubt, however, whether the CFCT will grant many such permissions. There is somewhat more clarity on the legal character of OTC instruments. The Commodity Exchange Act (CEA), the backbone of all legislation in this area, stipulates that all futures contracts must be traded on CFTC-designated exchanges. In principle, then, the OTC market is illegal.[16] In practice, the CFTC had decided in 1989 that, under a few conditions, swaps fell into a separate category and were thus outside the scope of its legislation.[17] This 1989 decision did not create much legal security for swap market participants as it was unclear whether the CFTC really had the authority to exempt swaps. It was hoped that the new Futures Trading Practices Act would put the OTC market on a sounder legal footing.[18] It

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[14] The Congress has commissioned the CFTC, in cooperation with the SEC and the Federal Reserve Board, to conduct a study about off-exchange risk management instruments in order to determine whether additional regulatory controls are needed and how they should be implemented. The study should also consider whether the exchange- or OTC-trading of securities and risk management instruments, as well as the markets for these instruments, should be regulated by a single agency.

[15] (Federal Register, p. 53620). This seems to imply that certain instruments could be exempted from regulation at certain times, and not exempted at others.

[16] See W.T. Maitland and J.W. Markham, "CFTC rules to provide legal certainty for OTC products", Futures Industry, November/December 1992.

[17] In its Policy Statement Concerning Swap Transactions, of July 1989, the CFTC stated that, in order for swaps to be distinguishable from futures contracts, the swap agreement (1) had to be individually tailored as to its material terms, based on the contracting parties' credit risk, be entered into in connection with the parties' lines of business, and contain obligations that are terminable with the consent of the counterparties; and (2) could not be marketed to the general public, include a mark-to-market arrangement, or be supported by a settlement system such as a clearing house.

[18] In the absence of a firm legal standing, a defaulting counterparty in a swap agreement could attempt to avoid payment of liability by claiming in a court of law that the swap

has indeed done so to some extent. The reauthorization bill provides the CFTC with specific statutory authority to exempt swaps, as well as with discretionary authority to exempt other OTC transactions from the CEA's off-exchange trading ban, if the CFTC determines that the swaps and other OTC transactions are entered into exclusively by institutions for business resons, and the exemption is otherwise consistent with the public interest and the CEA.[19]

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transaction was an illegal off-exchange futures contract. Note that, in the United Kingdom, local authorities were exempted from paying swap obligations because a court of law decided that they had entered into the swap transactions without having the legal authority to do so. This caused hundred of millions of pounds of losses to the banks who had provided the swaps. In the United States, a similar court decision in 1990 severely disrupted the Brent oil forward market, in stating that the forward contracts concerned were in reality illegal futures contracts and thus unenforceable. This issue was settled by the CFTC by its Statutory Interpretation of Forward Transactions (see Federal Register, vol. 55, p. 39188).

[19] This exemption is under conditions similar to those of 1989, but with the specification that the swap should not be "one of a fungible class of agreements that is standardized as to its material economic terms and is not entered into and traded on or through a multilateral execution facility". (S.C. Bair, "Is there a 'future' in swaps ?", Mortgage Banking, September 1992) Some argue that this formulation will inevitably give rise to legal problems, because many swaps are in effect tradeable and therefore to some extent fungible. See, for example, M.D. Young, "CFCT swaps proposal falls short", Futures Industry, November/December 1992.